

Georgia Performance Task Guide



- Works with both Houghton Mifflin Georgia Math and Math Expressions
- Performance Task for Every Georgia Standard
- Strategies to Succeed on Performance Tasks
- Student Work Samples, Scoring Rubrics, and Commentary

GRADE

1

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Grade 1

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Grade 1

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Grade 1 Performance Standards

Numbers and Operations

- Task 1 M1N1** Students will estimate, model, compare, order, and represent whole numbers up to 100.
- Task 2 M1N2** Understand place value notation for the numbers between 1 and 100. (Discussions may allude to 3-digit numbers to assist in understanding place value.)
- Task 3 M1N3** Students will add and subtract numbers less than 100 as well as understand and use the inverse relationship between addition and subtraction.
- Task 4 M1N4** Students will count collections of up to 100 objects by dividing them into equal parts and represent the results using words, pictures, or diagrams.

Measurement

- Task 5 M1M1** Students will compare and/or order the length, weight, or capacity of two or more objects by using direct comparison or a nonstandard unit.
- Task 6 M1M2** Students will develop an understanding of the measurement of time.

Geometry

- Task 7 M1G1** Students will study and create various two and three-dimensional figures and identify basic figures (squares, circles, triangles, and rectangles) within them.
- Task 8 M1G2** Students will compare, contrast, and/or classify geometric shapes by the common attributes of position, shape, size, number of sides, and number of corners.
- Task 9 M1G3** Students will arrange and describe objects in space by proximity, position, and direction (near, far, below, above, up, down, behind, in front of, next to, and left or right of).

Data Analysis and Probability

- Task 10 M1D1** Students will create simple tables and graphs, and interpret them.

Performance Tasks

- Performance tasks are activities that give students the opportunity to demonstrate their understanding and mastery of the skills and concepts described in their standards and learning objectives.
- Students can show orally, in writing, or through manipulatives that they clearly understand the purpose of the mathematical task at hand, the instructions given, the questions asked, and the mathematical vocabulary included.
- Students are required to use an organized approach to mathematical problems that can be solved using one or more strategies. They are also expected to explain the steps and strategies used to complete the task and to show evidence of checking that their answers are both correct and reasonable.
- Performance tasks also require a critical analysis by the student to explain the methods chosen to solve problems and the reasons why the methods were chosen.

Georgia Performance Task Guide

► Understand the Tasks

- For every Georgia Performance Standard, you will find a performance task that is carefully worked through in a step-by-step model to provide best instructional practices for the teacher and to improve student ability to problem solve efficiently and accurately.
- Each performance task addresses a Georgia Performance Standard and reviews the types of instructional activity the performance task expects.

► Understand the Essential Questions

- Each performance task provides three questions specifically designed to help students develop and practice operational skills, to think critically about their work, and to apply what they have learned to other mathematical tasks.
- Each performance task helps students apply mathematical concepts and skills in the context of authentic problems and understand these concepts rather than simply following a sequence of procedures.

► Understand the Math Vocabulary

- Vocabulary knowledge provides students with a mathematical foundation they can “apply and build on” in and out of the classroom.
- It is not only essential for students to learn how to “do” math, but also to articulate what they are learning to promote conceptual understanding and develop the necessary problem-solving skills.
- Each performance task highlights the important math vocabulary, defines the words, and suggests strategies to improve student comprehension (See Math Vocabulary Strategies p. vii).
- With an effective mathematical dialogue going on in the classroom, teachers can more accurately determine student progress as students acquire the means of explaining how they solve problems and describe what concepts may not be clear to them.

Math Vocabulary Strategies

- **Visual Aids and Models.** Consider using visual aids and/or physical models to demonstrate new concepts and help students grasp unfamiliar math terms. For example, graphic organizers can help children grasp an understanding of mathematical terms and their relation to one another. Writing math terms on cards and placing them on the walls with their meanings provide constant classroom exposure.
- **Analyze the Word** Multi-syllabic strategies can help students distill word roots that provide contextual clues to their meaning. Knowing the meanings of common roots can unlock the meaning of untold numbers of new words, and builds interest in language.
- **Math Words in Various Contexts** Reinforce the meaning of math vocabulary in other nonmathematical activities. For example, incorporate the teaching of math words in a language arts activity such as a read aloud or writing a story. Or, use mathematical terms on written feedback when returning assignments to students. Sports, entertainment, and games can be good discussion themes for math words as well.
- **Informal Language** Sometimes it is appropriate to use mathematical terms in your own dialogue as you demonstrate the various thought processes and steps to follow in solving a problem. For example, “numerator” is often referred to as the “top number”. However, always return to the formal math term to continuously expand students’ math vocabulary.
- **Check for Clarity** Be sure to check for understanding of the task, processes and vocabulary involved before, during, and after an assignment. For example, have students explain the meaning of mathematical terms to the class or in small discussion groups.
- **Common Math Terms** Teach the meanings of common math terms that have other definitions outside of the context of math—for example root, face, mean, and prime. Deciding which meaning of a multiple-meaning word is being used is an important reading skill. Students often must use contextual clues to figure out the intended meaning.
- **Note Cards** Encourage students to keep note cards to record math terms and vocabulary in their own words. Terms can go on one side of the card and a description, illustration, and/or example can go on the other side. Students can reference these note cards at any time and add to them as their understanding grows. They can also be taken home for extra practice.
- **Math Journals** Use journals to practice and strengthen new language skills and math terms in a non-threatening manner. Students can write word lists, definitions, examples, and illustrations in way that makes sense to them.
- **Think Aloud** As you are demonstrating a new skill or showing how to solve a problem, “think aloud” by narrating the process students must go through to solve the problem. Make sure to emphasize the math terms relevant to the situation.

Collectibles: *Compare and Order Numbers*



Number and Operations M1N1

Students will estimate, model, compare, order, and represent whole numbers up to 100.

► Understand the Essential Question

How do we use numbers?

Discuss with children how the numbers they see around them have different usages. Write 28 on the chalkboard. Ask children to say a sentence using the number. For example, "There are 28 children in the class." Tell children some numbers are used to tell "how many." When numbers are used to tell how many, you can compare their sizes and put them in sequential order. Call on a volunteer to tell his or her address. The child may say, "I live at 28 Parkside Drive." Tell children in this situation, 28 is used to identify a location. It is not used to tell how many. Have children look around the classroom for examples of numbers that are used to tell how many and examples that are not.

► Understand the Performance Task Objectives

- represent numbers using a variety of models, diagrams, and number sentences
- order numbers up to 100 by making ordered sequences and representing them on a number line
- estimate quantities of whole numbers up to 100
- compare quantities of coins by making fair trades
- explain and justify answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

compare To examine numbers to decide if one number is greater than or less than another or if the numbers are equal.

estimate To make a thoughtful guess or to tell about how much or about how many.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

VISUAL AIDS AND MODELS

- Draw an oversized number line on the floor. The number line should go from 1 to 100.
- Have each child write a number between 1 and 100 on a sheet of paper.
- Take turns calling out each child to stand on the number line to show his or her number.

Name _____

Collectibles

Materials: number line (optional)

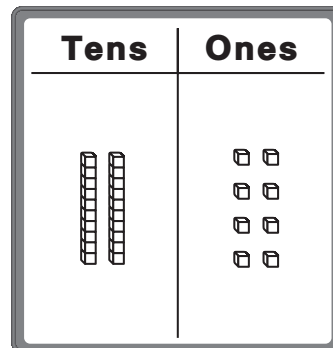
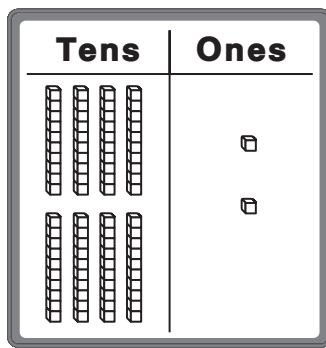
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

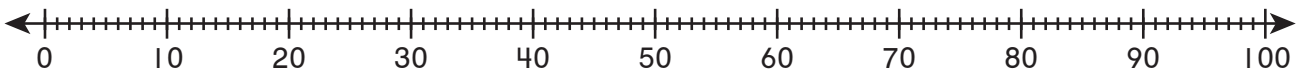
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = _____ tens _____ ones 28 = _____ + _____

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.

5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.

Performance Task 1 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly represents numbers using a variety of models, diagrams, and number sentences.
- correctly orders numbers up to 100 by making ordered sequences and representing them on a number line.
- correctly estimates the sum of two whole numbers.
- correctly compares quantities of coins by making fair trades.
- clearly explains and justifies answer.

Student Work Sample

The response shows the correct choice for the pictorial representation of the number 28. It shows how to write 28 in two ways. It correctly orders the three numbers from least to greatest on a number line. It provides an accurate estimation for question 4. For question 5, it lists many different coin combinations equal to 50 cents. It clearly explains and justifies the answer.

Collectibles

Materials: number line (optional)

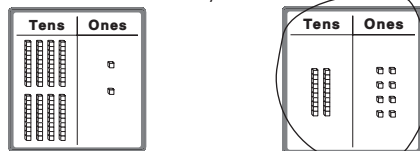
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

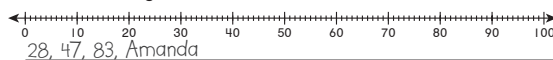
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = 2 tens 8 ones 28 = 20 + 8

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.

100 stamps

5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.

5 dimes; 2 dimes 1 nickel and 1 quarter; 10 nickles; 50 pennies.
Two quarters are equal to 50 cents. I can use pennies, dimes, nickels, and quarters to make the equal amount in many ways.

SATISFACTORY RESPONSE

The response:

- correctly represents numbers using a variety of models, diagrams, and number sentences.
- correctly orders numbers up to 100 by making ordered sequences and representing them on a number line.
- correctly estimates the sum of two whole numbers.
- may correctly compare quantities of coins by making fair trades.
- may explain and justify answer.

Student Work Sample

The response shows the correct choice for the pictorial representation of the number 28. It shows how to write 28 in two ways. It correctly orders the three numbers from least to greatest on a number line. It provides an accurate estimation for question 4. For question 5, it lists some different coin combinations equal to 50 cents. The explanation of the work is limited.

Collectibles

Materials: number line (optional)

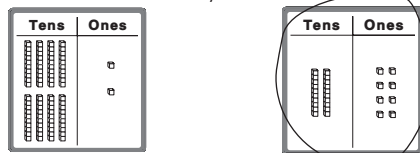
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

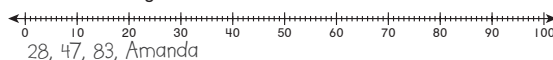
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = 2 tens 8 ones 28 = 20 + 8

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.

100 stamps

5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.

5 dimes; 2 dimes 1 nickel and 1 quarter. I know my answers are correct

PARTIAL RESPONSE

The response:

- correctly represents numbers using a variety of models, diagrams, and number sentences.
- incorrectly orders numbers up to 100 by making ordered sequences and representing them on a number line.
- may not correctly estimate the sum of two whole numbers.
- may correctly compare quantities of coins by making fair trades.
- does not explain and justify answer.

Student Work Sample

The response shows the correct choice for the pictorial representation of the number 28. It shows how to write 28 in two ways. It incorrectly orders the three numbers from least to greatest. It does not provide an accurate estimation for question 4. For question 5, it lists some different coin combinations equal to 50 cents. There is no explanation of the work.

Collectibles

Materials: number line (optional)

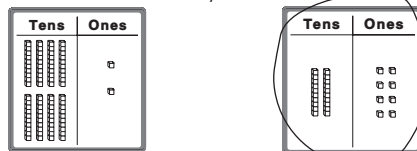
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

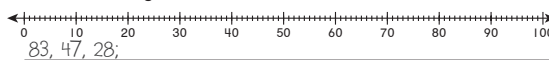
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = 2 tens 8 ones 28 = 20 + 8

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.
80
5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.
5 dimes

MINIMAL RESPONSE

The response:

- correctly represents numbers using a variety of models, diagrams, and number sentences.
- incorrectly orders numbers up to 100 by making ordered sequences and representing them on a number line.
- incorrectly estimates the sum of two whole numbers.
- does not compare quantities of coins by making fair trades.
- does not explain and justify answer.

Student Work Sample

The response shows the correct choice of the pictorial representation of the number 28. It shows how to write 28 in two ways. It incorrectly orders the three numbers from least to greatest. It does not provide a reasonable estimation for question 4. The answer for question 5 is incorrect and there is no explanation.

Collectibles

Materials: number line (optional)

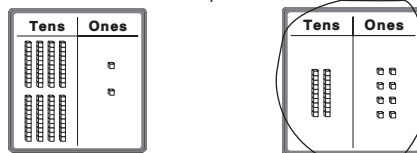
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

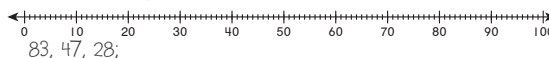
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = 2 tens 8 ones 28 = 20 + 8

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.
50
5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.
5 nickles

Guess My Number: *Place Value*



Number and Operations M1N2

Understand place value notation for the numbers between 1 and 100. (Discussions may allude to 3-digit numbers to assist in understanding place value.)

- Determine which multiple of ten a given number is nearest (rounding) using tools such as a sequential number line or a hundreds chart to assist in estimating.
- Represent collections of less than 30 objects with 2-digit numbers and understand the meaning of place value.

► Understand the Essential Question

Why do we need place value?

Discuss with the children that knowing place value is very important. Write the numbers 23 and 32 on the board. Ask, "How many tens are in the number 23? How many tens are in the number 32?" Then ask, "Are these numbers the same?" Go on a Scavenger Hunt. Have groups of children work together to look around the class and collect objects to represent the numbers you wrote on the board. For example, they may collect 23 paper clips, 32 pages of paper, and so on. Ask children to make groups or piles of 10s of the objects they collected.

► Understand the Performance Task Objectives

- determine to which multiple of ten a given number is nearest
- represent collections of less than 30 objects with 2-digit numbers and understand the meaning of place value
- explain and justify answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

place value The value assigned to the place that a digit occupies in a number.

ones The name given to the position farthest to the right when describing whole number place value.

tens The name given to the second position from the right when describing whole number place value.

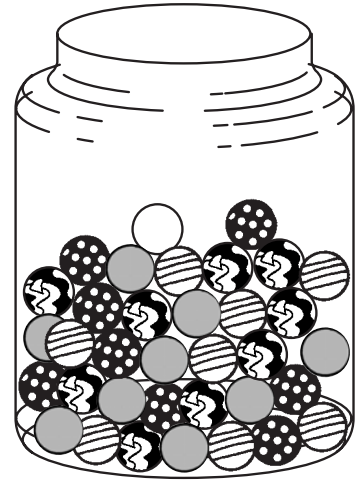
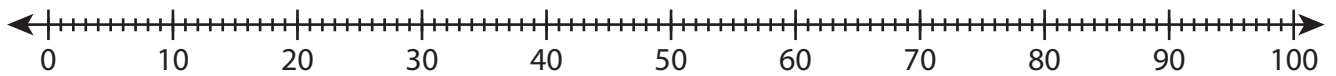
Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

CHECK FOR CLARITY

Be sure to check for understanding of the task, processes, and vocabulary involved before, during, and after the assignment. For example, have children explain the meaning of place value, ones, and tens to the class or in small discussion groups. Encourage children to use objects or pictures to explain what they know about these math terms.

Name _____

Guess My Number

Materials: number line (optional)**Ms. Pollack has a jar of marbles.****She tells the class a riddle to have them guess how many marbles are in the jar.****“My number is the smallest number you can round to the nearest ten and get 40.”****Write the numbers. You may use the number line to help you.**

1. Which numbers can be rounded to 40?

Which is the smallest number you wrote? _____

There are _____ marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place is the same. What number am I? _____

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

Performance Task 2 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly determines to which multiple of ten a given number is nearest.
- correctly represents collections of less than 30 objects with 2-digit numbers and understands the meaning of place value.
- clearly explains and justifies answers.

Student Work Sample

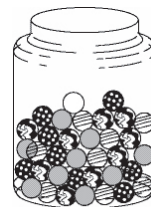
The response shows all the numbers that can be rounded to 40. Correctly identifies the smallest number that can be rounded to 40. The answer to question 2 is correct and the explanation is clear. The response to the last question is clear and accurate.

Guess My Number

Materials: number line (optional)

Ms. Pollack has a jar of marbles. She tells the class a riddle to have them guess how many marbles are in the jar.

"My number is the smallest number you can round to the nearest ten and get 40."



Write the numbers. You may use the number line to help you.



1. Which numbers can be rounded to 40?

35, 36, 37, 38, 39, 41, 42, 43, 44

Which is the smallest number you wrote? 35

There are 35 marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place are the same. What number am I? 33

I know all the numbers that can be rounded to 30. Only 33 has the same number in the ones place and tens place.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

22. There are 2 tens and 2 ones in my number.



SATISFACTORY RESPONSE

The response:

- correctly determines to which multiple of ten a given number is nearest.
- correctly represents collections of less than 30 objects with 2-digit numbers and understands the meaning of place value.
- may explain and justify answers.

Student Work Sample

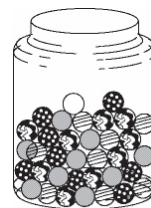
The response shows all the numbers that can be rounded to 40. Correctly identifies the smallest number that can be rounded to 40. The answer to question 2 is correct and the explanation is clear. The response to the last question is correct.

Guess My Number

Materials: number line (optional)

Ms. Pollack has a jar of marbles. She tells the class a riddle to have them guess how many marbles are in the jar.

"My number is the smallest number you can round to the nearest ten and get 40."



Write the numbers. You may use the number line to help you.



1. Which numbers can be rounded to 40?

35, 36, 37, 38, 39, 41, 42, 43, 44

Which is the smallest number you wrote? 35

There are 24 marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place is the same. What number am I? 24

I know all the numbers that can be rounded to 30. 33 has the same number in the ones place and tens place.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

22



PARTIAL RESPONSE

The response:

- correctly determines to which multiple of ten a given number is nearest.
- correctly represents collections of less than 30 objects with 2-digit numbers.
- may explain and justify answers.

Student Work Sample

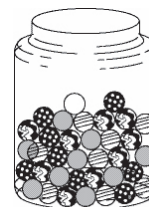
The response shows all the numbers that can be rounded to 40. Correctly identifies the smallest number that can be rounded to 40. The answer to question 2 is correct, but the explanation is limited. The response to the last question is limited.

Guess My Number

Materials: number line (optional)

Ms. Pollack has a jar of marbles. She tells the class a riddle to have them guess how many marbles are in the jar.

"My number is the smallest number you can round to the nearest ten and get 40."



Write the numbers. You may use the number line to help you.



1. Which numbers can be rounded to 40?

35, 36, 37, 38, 39, 41, 42, 43, 44

Which is the smallest number you wrote? 35

There are 35 marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place is the same. What number am I? 33

You round 33 to 30.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

22 has 2 tens and 2 ones.

MINIMAL RESPONSE

The response:

- may determine to which multiple of ten a given number is nearest.
- incorrectly represents collections of less than 30 objects with 2-digit numbers.
- does not explain and justify answers.

Student Work Sample

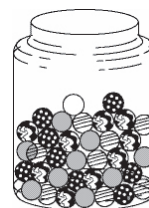
The response shows some of the numbers that can be rounded to 40, but some are incorrect. Correctly identifies the smallest number that can be rounded to 40. The answer to question 2 is correct but the explanation is limited. The response to the last question is incorrect.

Guess My Number

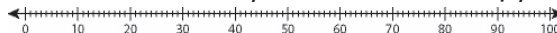
Materials: number line (optional)

Ms. Pollack has a jar of marbles. She tells the class a riddle to have them guess how many marbles are in the jar.

"My number is the smallest number you can round to the nearest ten and get 40."



Write the numbers. You may use the number line to help you.



1. Which numbers can be rounded to 40?

31, 32, 33, 34, 35, 36, 37, 38, 39

Which is the smallest number you wrote? 35

There are 35 marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place is the same. What number am I? 33

You round 33 to 30.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

25

Club Choices: Addition and Subtraction**Numbers and Operations M1N3**

Students will add and subtract numbers less than 100 as well as understand and use the inverse relationship between addition and subtraction.

► Understand the Essential Question

Why do we need to add and subtract?

Discuss with children that understanding addition and subtraction is very useful in daily life. They need to understand the situations in which addition or subtraction may apply. Write " $8 + 7 = ?$ " on the chalkboard. Ask children to come up with a real-life story problem that could be solved using the number sentence. Discuss children's problems. Then write " $12 - 4 = ?$ " on the chalkboard and repeat the process. In this task, children are asked to identify situations in which addition or subtraction may apply. Provide children with different problem types. Give subtraction situation examples of taking away from a set, comparing two sets, or finding an unknown amount that is taken away from or added to a set. Give addition examples of adding to a set or comparing two sets.

► Understand the Performance Task Objectives

- understand and use addition and subtraction strategies such as counting on from the smaller number and regrouping to make a new ten
- understand and use the inverse relationship between addition and subtraction
- write a subtraction problem
- justify and explain answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

add To find the sum of two or more numbers.

sum The answer in addition.

subtract To take a quantity away from another quantity.

difference The answer in subtraction.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

MATH JOURNALS

- Use journals to practice and strengthen new math skills and math terms.
- Children may write the addition and subtraction terms with their own illustrations.

Name _____

Club Choices

Materials: counters (optional)**Use the table to answer the questions below.****The children in Ms. Cobb's class all go to after school clubs.**

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use

--	--	--	--	--

 to help you.

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Performance Task 3 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly adds and subtracts numbers using strategies such as counting on from the smaller number and regrouping to make a new ten.
- correctly identifies situations in which subtraction may apply.
- correctly uses the inverse relationship between addition and subtraction to check answers.
- correctly writes a subtraction problem.
- correctly justifies and explains answers.

Student Work Sample

The response shows correct addition of two numbers by making a new ten. It shows how to subtract and check the answer. The answer and explanation to question 3 are clear and accurate.

Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use $\square\square\square\square$ to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$
 12 children; I make a ten to add. 7 + 5 is the same as 10 + 2.

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$
 6 children; I can use addition to check my answer.

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Jake has 17 blue marbles and 9 red marbles. How many more blue marbles than red marbles does Jake have?
 $17 - 9 = 8$, so Jake has 8 more blue marbles

SATISFACTORY RESPONSE

The response:

- correctly adds and subtracts numbers using strategies such as counting on from the smaller number and regrouping to make a new ten.
- correctly identifies situations in which subtraction may apply.
- correctly uses the inverse relationship between addition and subtraction to check answers.
- may write a subtraction problem.
- may justify and explain answers.

Student Work Sample

The response shows correct addition of two numbers by making a new ten. It shows how to subtract and check the answer. The answer and explanation to question 3 are limited.

Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use $\square\square\square\square$ to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$
 12 Children;
 12 I make a ten to add. 7 + 5 is the same as 10 + 2.

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$
 6 Children ; I can use addition to check my answer.

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Jake has 17 blue marbles and 9 red marbles. How many more blue marbles does Jake have? 8.

PARTIAL RESPONSE

The response:

- correctly adds and subtracts numbers using strategies such as counting on from the smaller number and regrouping to make a new ten.
- may identify situations in which subtraction may apply.
- may use the inverse relationship between addition and subtraction to check answers.
- may write a subtraction problem.
- may justify and explain answers.

Student Work Sample

The response shows correct addition of two numbers by making a ten. It shows how to subtract and check the answer. The answer and explanation to question 3 are incomplete.


Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use  to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$
 I make a ten to add. $7 + 5$ is the same as $10 + 2$.

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$
 6 Children; I can use addition to check my answer.

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Jake has 17 blue marbles and 9 red marbles. Who has more marbles?

MINIMAL RESPONSE

The response:

- correctly adds numbers using strategies such as counting on from the smaller number and regrouping to make a new ten.
- incorrectly identifies situations in which subtraction may apply.
- does not use the inverse relationship between addition and subtraction to check answers.
- does not write a subtraction problem.
- does not justify and explain answers.

Student Work Sample

The response shows correct addition of two numbers, but does not provide a solution method. It does not show how to subtract or check the answer. The answer and explanation to question 3 are incorrect.


Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use  to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Jake has 17 blue marbles and 9 red marbles. How many marbles do they have in all?

Fair Shares: Equal Parts and Fractions**Numbers and Operations M1N4**

Students will count collections of up to 100 objects by dividing them into equal parts and represent the results using words, pictures, or diagrams.

- Use informal strategies to share objects equally between two to five people.
- Identify, label, and relate fractions (halves, fourths) as equal parts of a whole using pictures and models.

► Understand the Essential Question

When do we use fractions in real life?

Discuss with children that a fraction is a way of showing equal parts. Display food packages that show examples of fractions. Ask questions like, "What does $\frac{1}{4}$ of a cup mean?" In this task, children have hands-on experience of using fractions. You may remind children if they pour four $\frac{1}{4}$ cups of water together, they will make one full cup.

► Understand the Performance Task Objectives

- show counting by 5s on a number line
- use informal strategies to divide objects into equal groups
- relate fractions as equal parts of a whole using pictures and models
- explain and justify an answer

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

equal parts Parts that are the same size.

fraction A way to represent part of a whole by showing the total number of equal parts in the whole and the number of those parts being described.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

VISUAL AIDS AND MODELS

- Give each pair of children a paper plate and 20 beans.
- Have one child use the paper plate to show equal parts of halves and fourths.
- Have another child use the beans to show 2 groups of equal parts and 4 groups of equal parts.
- Ask each pair of children if they are showing examples of fair shares and have them tell why.

Name _____

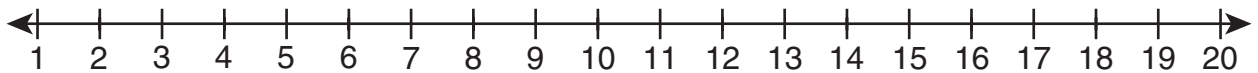
Fair Shares

Materials: 20 counters (optional)

Brian has 20 marbles and 4 friends. How could he share them equally among his friends?

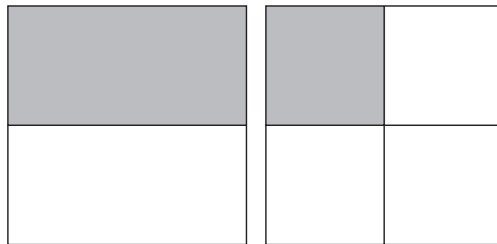


1. Count by 5s to 20. Show your work on a number line.



2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



Performance Task 4 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly shows counting by 5s on a number line.
- correctly uses words or a drawing to tell how to share objects equally among 4 people.
- correctly relates fractions as equal parts of a whole using pictures and models.
- clearly justifies an answer.

Student Work Sample

The response correctly shows counting by 5s on a number line. The drawing demonstrates the use of an informal strategy to share objects equally among 4 people. The answer shows correct use of a fraction and a model to relate equal parts of a whole. Explanation of answer choices is clear.

Fair Shares

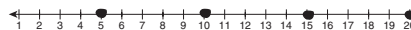
Materials: 20 counters (optional)

Brian has 20 marbles. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

5, 10, 15, 20

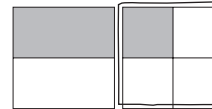


2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

•••• •••• •••• ••••

5 marbles

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



There are 4 friends equally sharing 20 marbles. Each friend gets $\frac{1}{4}$ or one fourth of the marbles.

SATISFACTORY RESPONSE

The response:

- correctly shows counting by 5s on a number line.
- may tell how to share objects equally among 4 people with limited explanation.
- correctly relates fractions as equal parts of a whole using pictures and models.
- may show limited explanation for answer choices.

Student Work Sample

The response correctly shows counting by 5s on a number line. It tells how to share objects equally among 4 people with limited explanation. The response shows correct use of a fraction and a model to relate equal parts of a whole. The explanation for answer choice is limited.

Fair Shares

Materials: 20 counters (optional)

Brian has 20 marbles. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

5, 10, 15, 20



2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

5; There are 4 people. Each person gets 5 marbles.

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



There are 4 friends who share equally the marbles.

PARTIAL RESPONSE

The response:

- correctly shows counting by 5s.
- may tell how to share objects equally among 4 people with limited explanation.
- incorrectly relates fractions as equal parts of a whole using pictures and models.
- may show incorrect explanation for answer choice.

Student Work Sample

In the response the samples are not fully accurate and most explanations are not clear.

Fair Shares

Materials: 20 counters (optional)

Brian has 20 marbles. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

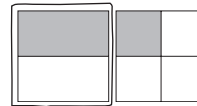
5, 10, 15, 20



2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

each person gets 5 marbles

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



Each person gets a equal share. Each person gets one half.

MINIMAL RESPONSE

The response:

- correctly shows counting by 5s.
- gives an incorrect answer for how to share objects equally among 4 people.
- incorrectly relates fractions as equal parts of a whole using pictures and models.
- gives no explanation for answer choice.

Student Work Sample

In the response the samples are mostly incorrect and no explanations are given.

Fair Shares

Materials: 20 counters (optional)

Brian has 20 marbles. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

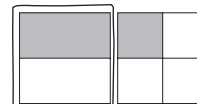
5, 10, 15, 20



2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

4 marbles

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



How Big? *Measure Length, Weight, and Capacity*



Measurement M1M1

Children will compare and/or order the length, weight, or capacity of two or more objects by using direct comparison or a nonstandard unit.

► Understand the Essential Question

Why is it important to compare the capacity and length of objects?

Ask the children to look around the room for items, such as various books, desktops, and games and compare their lengths, weights, and capacities. Ask children to “Write down an object that is in your bedroom and describe how long it is and how much it weighs to a friend.” Tell them we use these descriptions in our everyday lives. For example, pouring juice into the right cup so that it does not spill over or putting school supplies in a box that needs to fit all of the various lengths of items. In this task, children will compare items according to length and weight and find objects with the same properties.

► Understand the Performance Task Objectives

- compare the length and weight of objects
- use data from a picture to identify properties
- understand the relationship between the size and capacity of items
- explain answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies on page vii.

weight The measure of how heavy something is.

length The measure of how long something is.

equal Having the same size, quantity, value, or standard.

Try to use these words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way. Incorporate as much hands-on practice with new vocabulary words as you can.

VISUAL AIDS AND MODELS

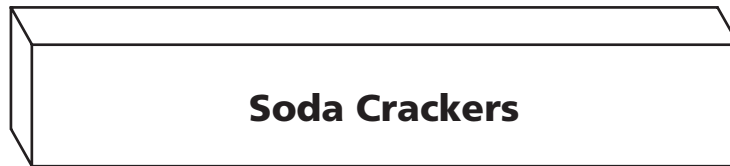
- Have children compare the length, weight, and capacity of various items in their homes, and decide if any have equal properties.

Name _____

How Big?

Materials: Boxes of crackers

You have these items.



1. Which box is the longest?

2. Which boxes have equal lengths?

3. Circle the boxes that weigh the least when filled.

4. Which box holds the most when filled?

5. Which box weighs the most when filled? How do you know?

Performance Task 5 Scoring Rubric

EXTENDED RESPONSE

The response:

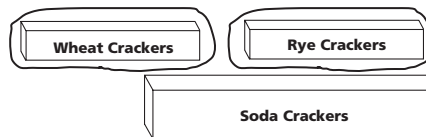
- correctly identifies the soda crackers box as the longest.
- correctly identifies the rye and wheat crackers boxes as having equal lengths.
- correctly identifies the rye and wheat crackers boxes as weighing the least.
- identifies the soda crackers box as having the greatest capacity.
- identifies the soda crackers box as weighing the most and provides a clear explanation.

Student Work Sample

The response is complete and accurate. All comparative measurements and properties are identified. The children can explain the box's capacity or weight by using words such as "biggest," "longest," "heaviest," or "filled with the most."

How Big?

Materials: soup can, can of corn, can of paint
You have these items.



1. Which box is the longest?
soda crackers
2. Which boxes have **equal lengths**?
rye and wheat crackers
3. Circle the boxes that **weigh** the least when filled.
4. Which box holds the most when filled?
soda crackers
5. Which box weighs the most when filled? How do you know?
soda crackers; it holds the most.

SATISFACTORY RESPONSE

The response:

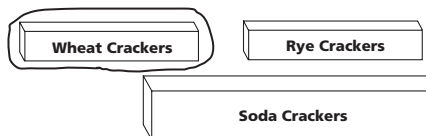
- correctly identifies the soda crackers box as the longest.
- may only identify the the box of rye crackers correctly.
- identifies the box of rye crackers or wheat crackers.
- correctly identifies the soda crackers box as weighing the most and provides a clear explanation.

Student Work Sample

The response is almost complete, but has an error. In question 2, the box of wheat crackers is not identified.

How Big?

Materials: soup can, can of corn, can of paint
You have these items.



1. Which box is the longest?
soda crackers
2. Which boxes have **equal lengths**?
rye crackers
3. Circle the boxes that **weigh** the least when filled.
4. Which box holds the most when filled?
soda crackers
5. Which box weighs the most when filled? How do you know?
soda crackers; it holds the most.

PARTIAL RESPONSE

The response:

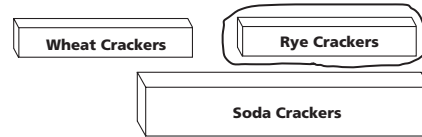
- correctly identifies the soda crackers box as the longest.
- may only identify the box of rye crackers correctly.
- may only identify the box of rye or wheat crackers.
- identifies the box of soda crackers, but the explanation is incorrect or omitted.

Student Work Sample

In the sample, the responses are not fully accurate and contain two errors. The responses to question 2 and 3 are incorrect. In question 5, no explanation given.

How Big?

Materials: soup can, can of corn, can of paint
You have these items.



1. Which box is the longest?
soda crackers
2. Which boxes have **equal lengths**?
rye crackers
3. Circle the boxes that **weigh** the least when filled.
4. Which box holds the most when filled?
soda crackers
5. Which box weighs the most when filled? How do you know?
soda crackers

MINIMAL RESPONSE

The response:

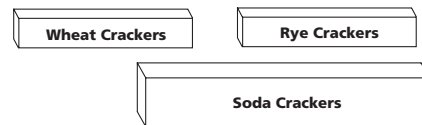
- may correctly identify the box of soda crackers as the longest.
- may only identify the box of rye crackers correctly.
- may not identify either the rye or wheat crackers boxes.
- correctly identifies the box of soda crackers in question 5, but the explanation is incorrect or omitted.

Student Work Sample

In the sample, the responses are not fully accurate. There are 4 incorrect responses. There is no explanation for question 5.

How Big?

Materials: soup can, can of corn, can of paint
You have these items.



1. Which box is the longest?
soda crackers
2. Which boxes have **equal lengths**?
rye crackers
3. Circle the boxes that **weigh** the least when filled.
4. Which box holds the most when filled?
rye crackers
5. Which box weighs the most when filled? How do you know?
soda crackers

Time Measurement: *Duration, Longer/Shorter, Before/After***Measurement M1M2**

Children will develop an understanding of the measurement of time.

- c. Compare and/or order the sequence or duration of events (e.g., shorter/longer and before/after).

► Understand the Essential Question

Why is it important to understand the measurement of time?

Write activities on the board (brushing teeth, riding on the school bus, eating lunch, reading a book, sitting in a classroom, playing a baseball game) and have the children label them in order of length of time needed for each. In addition, ask questions about these activities that reinforce terms such as before/after, longer/shorter, and lengths of time. Ask the children, "Do you feel that play time is really short?" Explain that it can be longer if other tasks, like completing homework or doing chores, can be done more quickly. This task requires viewing a schedule that will enable students to understand the duration of school events. It will also help manage personal time so that more enjoyable activities can be longer.

► Understand the Performance Task Objectives

- use data from a picture to identify sequence of events
- compare activities to identify duration of events (i.e., longer/shorter)
- understand how to identify duration of activities (in hours)
- explain answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

longer A word used in comparing length to show that one item has a greater length than another.

shorter A word used to compare length or height to show that one item has a lesser length or height than another.

before A word used to describe a point in time or an event that happens earlier than another in a sequence.

after A word used to describe an event that happens later in time.

Try to use these words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way. Incorporate as much hands-on practice with new vocabulary words as you can.

VISUAL AIDS AND MODELS

- Have children make a schedule of events that happen when they get home from school.

Name _____

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?

2. Name one activity that is **shorter** than reading.

3. Name one activity that is **longer** than snack.

4. Name one activity that is **before** math.

5. Which activity is **after** sing-a-long?

6. Name your favorite activity at home and tell how long it is.

Performance Task 6 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly identifies math.
- shows a correct choice of sing-a-long or snack.
- shows a correct choice of math, reading, or school picnic.
- identifies snack or reading.
- correctly identifies school picnic.
- identifies an activity with a logical length of time (answers will vary).

Student Work Sample

The response is complete and accurate. The sequence and duration of events are all correctly identified.

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?
math
2. Name one activity that is **shorter** than reading.
sing-a-long
3. Name one activity that is **longer** than snack time.
math
4. Name one activity is **before** math.
snack
5. Which one activity is **after** Sing-a-long?
school picnic
6. Name your favorite activity at home and tell how long it is.
reading; 30 minutes

SATISFACTORY RESPONSE

The response:

- correctly identifies math.
- shows a correct choice of sing-a-long or snack.
- shows a correct choice of math, reading, or school picnic.
- identifies snack or reading.
- may correctly identify school picnic.
- may not give a logical length of time for choice of activity.

Student Work Sample

The response is complete, but contains an error. The events were all correctly identified in sequence, however the duration of time in question 6 is not logical.

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?
math
2. Name one activity that is **shorter** than reading.
sing-a-long
3. Name one activity that is **longer** than snack time.
reading
4. Name one activity is **before** math.
snack
5. Which one activity is **after** Sing-a-long?
school picnic
6. Name your favorite activity at home and tell how long it is.
reading; 7 hours

PARTIAL RESPONSE

The response:

- correctly identifies math.
- may show a correct choice of sing-a-long or snack.
- may show a correct choice of math, reading, or school picnic.
- may not identify snack.
- may correctly identify school picnic.
- may have incorrectly identified a logical length of time for the activity.

Student Work Sample

The response is complete, but contains two errors. In question 4, the child misunderstood the meaning of before. In question 6, the child could not identify the correct duration of the activity.

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?
math
2. Name one activity that is **shorter** than reading.
snack
3. Name one activity that is **longer** than snack time.
reading
4. Name one activity is **before** math.
sing-a-long
5. Which one activity is **after** Sing-a-long?
school picnic
6. Name your favorite activity at home and tell how long it is.
reading; 1 minute

MINIMAL RESPONSE

The response:

- correctly identifies math.
- may not show a correct choice of sing-a-long or snack.
- may not show a correct choice of math, reading, or school picnic.
- may not identify snack.
- may correctly identify school picnic.
- may have incorrectly identified a logical length of time for the activity.

Student Work Sample

The response contains inaccuracies. In questions 2 and 3, the child confused the meaning of shorter and longer. In question 4, the child confused the meaning of before. In question 6, the child could not identify the correct duration of the activity.

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?
math
2. Name one activity that is **shorter** than reading.
school picnic
3. Name one activity that is **longer** than snack time.
snack
4. Name one activity is **before** math.
sing-a-long
5. Which one activity is **after** Sing-a-long?
school picnic
6. Name your favorite activity at home and tell how long it is.
reading; 5 minutes

What Do You See? *Study and Create Shapes*



Geometry M1G1

Students will study and create various two- and three-dimensional figures and identify basic figures (squares, circles, triangles, and rectangles) within them.

► Understand the Essential Question

Why do we need to know about and describe different shapes?

Discuss with children that there are different geometric shapes in their surroundings. Studying the attributes of various shapes helps them identify and classify the objects they see. Ask children to think of objects with different shapes in their kitchen. You may suggest cereal boxes, juice boxes (rectangular prisms), oatmeal boxes (cylinders), ice cream cones (cones). Ask them to describe what each of these items looks like to a classmate. In this task, children will observe several three-dimensional shapes and describe what each looks like. Help them to count sides as they name the objects.

► Understand the Performance Task Objectives

- identify and study the same three-dimensional shapes
- identify two-dimensional shapes within three-dimensional shapes
- create pictures and designs using shapes
- explain choices

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

cylinder A solid with two circular congruent bases.

hexagon A figure with six sides.

rectangular prism A solid figure with six faces that are rectangles.

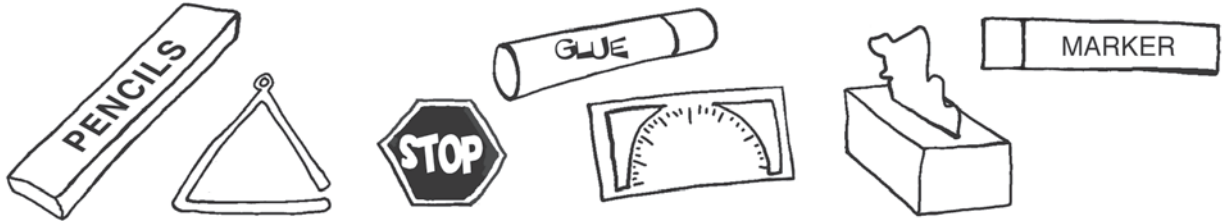
Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

VISUAL AIDS AND MODELS

- Set up a display of various classroom objects that have the shape of a cylinder, a rectangular prism, and other basic geometric shapes. Label each with the correct name.
- Have children observe different objects. Comparing and contrasting them (orally and/or written) will help reinforce the vocabulary terms.
- Have children draw and build new shapes. Make sure they use appropriate geometric terms to describe their new shapes.

Name _____


What Do You See?

Materials: geometric patterns (optional)**Read this aloud and then complete the task.**

1. Which of these objects have the same shapes? Why? You may use pictures or words to explain.

2. Trace a  on your paper. Which objects could you use? Why?

3. Trace a  on your paper. Which objects could you use? Why?

4. Create a picture or a design that has the same shape as the . What shapes can you use to make it?

Performance Task 7 Scoring Rubric

EXTENDED RESPONSE

The response:

- applies knowledge of 2-dimensional shapes and uses it to explain why two 3-dimensional shapes are the same.
- correctly identifies and creates basic 2-dimensional shapes from 3-dimensional shapes and gives clear explanations.
- shows a way of making a hexagon using other 2-dimensional shapes.
- provides clear and accurate reasons for all answers.

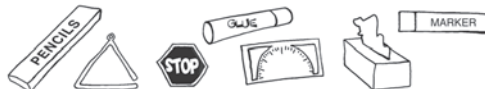
Student Work Sample


In the response the samples are accurate and all explanations are clear. The shapes are correctly classified and drawn.

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain. The glue stick and the marker; they are both cylinders. A cylinder has faces of circles and rectangles. The pencil box and the tissue box; they are both rectangular prisms. A rectangular prism has faces of rectangles and squares.
2. Trace a ○ on your paper. Which objects could you use? Why? A glue stick or a marker; I can draw around a face of a cylinder to make a circle.
3. Trace a □ on your paper. Which objects could you use? Why? A pencil box or a tissue box; I can draw around a face of a rectangular prism to make a rectangle.
4. Create a picture or a design that has the same shape as the ⬡. What shapes can you use to make it? I use 6 triangles to make a hexagon. 

SATISFACTORY RESPONSE

The response:

- correctly identifies the same 3-dimensional shapes and gives limited explanations.
- correctly creates basic 2-dimensional shapes from 3-dimensional shapes and gives limited explanations.
- may show a drawing of a hexagon with limited descriptions.
- provides reasons for most answers.

Student Work Sample


In the response the samples are mostly accurate and most explanations are clear. Most shapes are correctly classified and drawn.

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain. The glue stick and the marker; they are both cylinders. The pencil box and the tissue box; they are both rectangular prisms
2. Trace a ○ on your paper. Which objects could you use? Why? A glue stick; a glue stick is a round shape.
3. Trace a □ on your paper. Which objects could you use? Why? A pencil box; a pencil box is a rectangular shape.
4. Create a picture or a design that has the same shape as the ⬡. What shapes can you use to make it? I use triangles to make this shape 

PARTIAL RESPONSE

The response:

- may correctly identify the same 3-dimensional shapes and give no explanations.
- may make correct 2-dimensional shapes from 3-dimensional shapes and give no explanations.
- may show an incorrect drawing of a hexagon with limited explanations.
- may show a limited response to answers.

Student Work Sample

In the response the samples are not fully accurate and most explanations are not clear.

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain.
the glue stick and the marker; the pencil box and the tissue box
2. Trace a ○ on your paper. Which objects could you use? Why?
a glue stick or a marker
3. Trace a □ on your paper. Which objects could you use? Why?
a pencil box or a tissue box
4. Create a picture or a design that has the same shape as the ⬡. What shapes can you use to make it?
I use triangles to make this shape

MINIMAL RESPONSE

The response:

- incorrectly identifies the same 3-dimensional shapes and give no explanations.
- makes incorrect 2-dimensional shapes from 3-dimensional shapes.
- may show an incorrect drawing of a hexagon with no explanations.
- may show a limited response to answers.

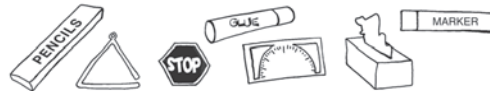
Student Work Sample

In the response the samples are not fully accurate and most explanations are not clear. Most shapes are incorrectly classified and drawn.

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain.
The glue stick and the pencil box.
2. Trace a ○ on your paper. Which objects could you use? Why?
circles
3. Trace a □ on your paper. Which objects could you use? Why?
rectangles
4. Create a picture or a design that has the same shape as the ⬡. What shapes can you use to make it?
trace it

Shapes in Nature: *Classify Geometric Shapes*



Geometry M1G2

Students will compare, contrast, and/or classify geometric shapes by the common attributes of position, shape, size, number of sides, and number of corners.

► Understand the Essential Question

How are certain shapes alike and different?

Discuss with children that each geometric shape has its own attributes. Tell the class a riddle about a geometric shape. "I have 4 sides and 4 corners. All my sides have the same length. What am I?" After children solve the riddle, call out a volunteer to draw the shape on the board. Have children work in pairs to make up their own riddles. Then children exchange riddles and solve. In this task, children have the opportunity to talk about the attributes of various geometric shapes. You may have them make a chart to compare the attributes of each shape.

► Understand the Performance Task

- identify a hexagon
- compare, contrast, and classify geometric shapes
- combine geometric shapes to make new shapes
- explain and justify answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

pentagon A polygon with five sides.

hexagon A polygon with six sides.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

MATH JOURNALS

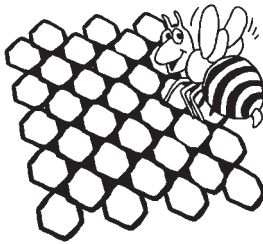
- Use journals to practice and strengthen new math skills and math terms.
- Have children write the name of each geometric shape with their own illustrations.
Tell children that by doing so, they are creating their own picture dictionary.

Name _____

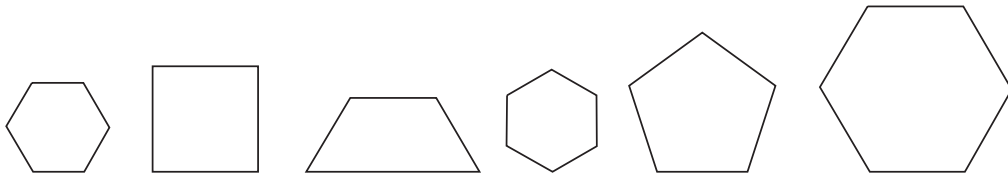
Shapes in Nature

Materials: geometric patterns (optional)**Read this aloud and then complete the task.****Answer each question. Use** 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?				
How many corners?				

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.

Performance Task 8 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly identifies hexagons.
- correctly compares, contrasts, and classifies geometric shapes.
- correctly draws a flower using shapes and labels each shape.

Student Work Sample

In the response the samples are accurate and all explanations are clear. The shapes are correctly identified and drawn.

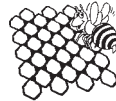
Shapes in Nature

Materials: geometric patterns (optional)

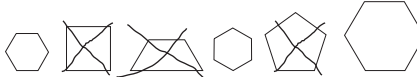
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



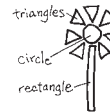
1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	5	6

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.



SATISFACTORY RESPONSE

The response:

- correctly identifies hexagons.
- correctly compares, contrasts, and classifies geometric shapes.
- correctly draws a flower using shapes and labels at least one shape.

Student Work Sample

In the response the samples are accurate and all explanations are clear. The shapes are correctly identified and drawn. (There are some labels missing for question 3.)

Shapes in Nature

Materials: geometric patterns (optional)

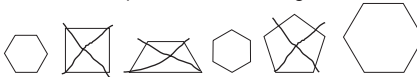
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



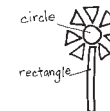
1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	5	6

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.



PARTIAL RESPONSE

The response:

- correctly identifies hexagons.
- correctly compares, contrasts, and classifies geometric shapes.
- may draw a flower using shapes, but labels may be incorrect or missing.
- may explain and justify answers.

Student Work Sample

In the response the samples are accurate and all explanations are clear. The shapes are correctly drawn but not all labels are correct.

Shapes in Nature

Materials: geometric patterns (optional)

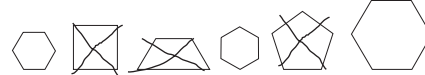
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



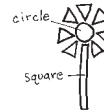
1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	5	6

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.



MINIMAL RESPONSE

The response:

- incorrectly identifies hexagons.
- may compare, contrast, and classify geometric shapes.
- attempts to draw a flower using shapes.
- may explain and justify answers.

Student Work Sample

In the response the samples for questions 1 and 2 are partially correct. The drawing of the flower is incorrect, and labels are missing.

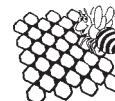
Shapes in Nature

Materials: geometric patterns (optional)

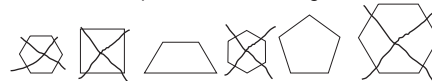
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	2	3

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.



Treasure Hunt: *Position and Direction*



Geometry M1G3

Students will arrange and describe objects in space by proximity, position, and direction (near, far, below, above, up, down, behind, in front of, next to, and left or right of).

► Understand the Essential Question

When do we use position and direction words?

Have children think of instances in their daily lives when position words are used. They may say, "When I was looking for my book, my mom said it was next to my bed." Or, "When my friend dropped her pencil and she said it was behind me." Tell children that using position words to describe spatial relations is an essential skill in daily life. Play a game of "I Spy" with the class. Write these position words on the board: near, far, below, above, up, down, behind, in front of, next to, left of, right of. Ask, "I Spy a dictionary. Where is it?" Encourage children to use at least one position word from the list to explain where the dictionary is. The child who answers the question correctly gets to pick the next object. In this task, children will use position words to hunt for treasures.

► Understand the Performance Task Objectives

- identify objects in space by position and direction
- arrange objects in space by position and direction
- use position words to tell location
- explain answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

position Describes the location of an object.

direction The way that someone or something is moving or pointing.

map A detailed drawing of an area.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

GAMES AND ACTIVITIES

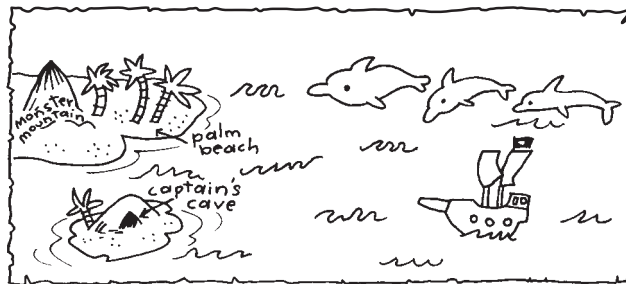
- When teaching spatial terms to children, it is helpful to reinforce the application of these words through games and activities.
- You may arrange a treasure-hunt activity. Place several "pictures" of treasures around the classroom. Have children find the treasure. Tell them in order to claim the treasure, they have to use spatial terms to describe the location of the treasure.

Name _____

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.

right
left
2. Palm Beach is to the _____ of the dolphins.

right
left

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

near
 far
 below
 above
 up
 down
 behind
 in front of
 next to
 left of
 right of

Performance Task 9 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly identifies objects in space by position and direction.
- correctly arranges objects in space by position and direction.
- uses direction and position words accurately.

Student Work Sample

The response shows how to identify objects in space by position and direction. The birds and the shark are drawn in the accurate spots. The directions for the treasure chest are clear and accurate.

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.

rightleft
2. Palm Beach is to the _____ of the dolphins.

rightleft

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

The treasure chest is far from the pirate's ship. It is near Palm Beach. If you go up the mountain you will find it behind a rock.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

SATISFACTORY RESPONSE

The response:

- correctly identifies objects in space by position and direction.
- correctly arranges objects in space by position and direction.
- may use direction and position words.

Student Work Sample

The response shows how to identify objects in space by position and direction. The birds and the shark are drawn in the accurate spots. The directions for the treasure chest are limited.

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.

rightleft
2. Palm Beach is to the _____ of the dolphins.

rightleft

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

The treasure chest is near Palm beach.
It is below a tree.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

PARTIAL RESPONSE

The response:

- correctly identifies objects in space by position and direction.
- correctly arranges objects in space by position and direction.
- uses limited direction and position words.

Student Work Sample

The response shows how to identify objects in space by position and direction. The birds and the shark are drawn in the accurate spots. The directions for the treasure chest are limited.

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.
right left
2. Palm Beach is to the _____ of the dolphins.
right left

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

The treasure chest is below a tree.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

MINIMAL RESPONSE

The response:

- incorrectly identifies objects in space by position and direction.
- correctly arranges objects in space by position and direction.
- uses incorrect direction and position words.

Student Work Sample

The response incorrectly identifies objects in space by position and direction. The birds and the shark are drawn in the accurate spots. The directions for the treasure chest are incorrect.

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.
right left
2. Palm Beach is to the _____ of the dolphins.
right left

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

The treasure chest is to the right of
the pirate's ship.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

Ralph's Ice Pops: Data and Graphs**Data Analysis and Probability M1D1**

Students will create simple tables and graphs, and interpret them.

- a. Interpret tally marks, picture graphs, and bar graphs.

► Understand the Essential Question

Why do we use graphs to show data?

Display various graphs from newspapers or magazines. The graphs may include a pie chart, a bar graph, a pictograph, and so on. Ask, "Why do we use graphs to show data?" Lead children to the conclusion that a graph is an efficient way of showing data. Instead of reading through a lot of words, people read a graph and get the information quickly. Have pairs of children look through their cubby and supply boxes to see what kind of pens they have and how many of each kind there are. Give each pair an inch grid paper. Tell them to make a graph to show the kind of pens they have. In this task, children collect and organize data to create a bar graph.

► Understand the Performance Task Objectives

- interpret tally marks
- record data on a bar graph
- interpret a bar graph
- explain how to organize and record data on a graph

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

tally mark A symbol that represents an individual item of data.

bar graph A graph that shows information using rectangular bars, either horizontally or vertically.

data Pieces of information.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

VARIOUS CONTEXTS

- Reinforce these mathematical terms by having children find examples of graphs in the real-world. For example, you may have pairs of children look through some social studies or science textbooks and see who finds more graphs.
- Sports, entertainment, and the consumer's world can be good discussion themes for these math terms as well.

Name _____

Ralph's Ice Pops

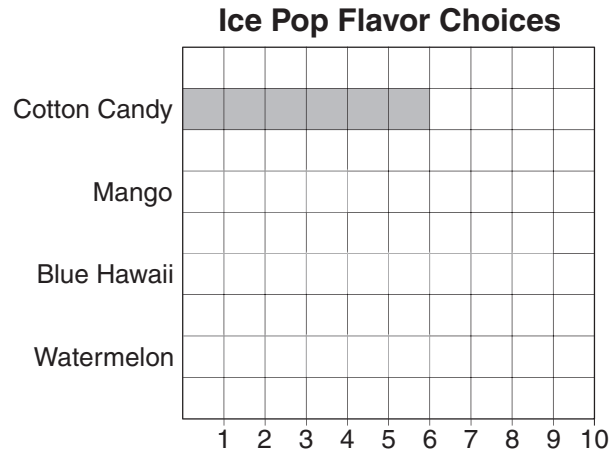
Ralph's Ice Pops is coming to Jackson School today.

Room 2 makes the following choices:

- Which flavor has the most number of choices? the least?

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon
 		 	

- Complete this bar graph.



- Write three sentences to tell what this bar graph shows.

- Was it easier to make comparisons from the tally marks or the bar graph? Why?

Performance Task 10 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly interprets tally marks.
- correctly records data in a bar graph.
- correctly interprets a bar graph.
- clearly explains why data is easier to compare in certain formats.

Student Work Sample

The response correctly shows how to interpret tally graphs. The bar graph is correctly completed. The sentences about the bar graph tell important information about the graph. The explanation of why certain graphs make it easier to compare information is clear and accurate.

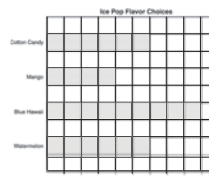
Ralph's Ice Pops

Ralph's Ice Pops is coming to Jackson School today.

Room 2 makes the following choices:

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Blue Hawaii is the most popular choice. Mango is the least popular choice. Cotton Candy and Watermelon got the same number of choices.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

It is easier to compare the information in a bar graph because the length of the lines show which has more.

SATISFACTORY RESPONSE

The response:

- correctly interprets tally marks.
- correctly records data in a bar graph.
- correctly interprets a bar graph.
- shows a limited explanation why data is easier to compare in certain formats.

Student Work Sample

The response correctly shows how to interpret tally marks. The bar graph is correctly completed. The sentences about the bar graph tell important information about the graph. The explanation of why certain graphs make it easier to compare information is limited.

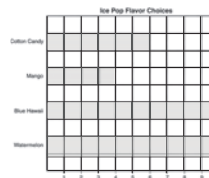
Ralph's Ice Pops

Ralph's Ice Pops is coming to Jackson School today.

Room 2 makes the following choices:

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Blue Hawaii is the most popular choice. Mango is the least popular choice. Cotton Candy and Watermelon got the same number of choices.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

The bar graph is easier to read.

PARTIAL RESPONSE

The response:

- correctly interprets tally marks.
- correctly records data in a bar graph.
- tells limited information about the bar graph.
- gives a limited explanation of why data is easier to compare in certain formats.

Student Work Sample

The response correctly shows how to interpret tally marks. The bar graph is correctly completed. The sentences about the bar graph tell some facts about the graph. The explanation of why certain graphs make it easier to compare information is limited.

Ralph's Ice Pops

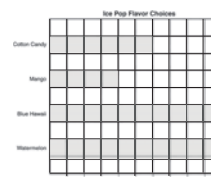
Ralph's Ice Pops is coming to Jackson School today.

Room 2 makes the following choices:

1. Which flavor has the most number of choices? the least?
most: Blue Hawaii; least: Mango

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Ralph's Ice Pops came to Jackson School. Room 2 is having ices today. Blue Hawaii is the most popular choice.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

A bar graph

MINIMAL RESPONSE

The response:

- correctly interprets tally marks.
- shows an incomplete bar graph.
- tells incorrect information about the bar graph.
- gives no explanation for question 4.

Student Work Sample

The response correctly shows how to interpret tally marks. The bar graph is incomplete. The information about the bar graph is incorrect. Explanation for the last question is not given.

Ralph's Ice Pops

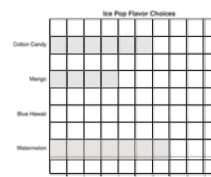
Ralph's Ice Pops is coming to Jackson School today.

Room 2 makes the following choices:

1. Which flavor has the most number of choices? the least?
most: Blue Hawaii; least: Mango

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Blue Hawaii is very delicious. Cotton Candy is very delicious, too. Mango is not delicious.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

Houghton Mifflin

Math

GEORGIA

Georgia Performance Task Guide

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Georgia Performance Task Guide



- Works with both Houghton Mifflin Georgia Math and Math Expressions
- Performance Task for Every Georgia Standard
- Strategies to Succeed on Performance Tasks
- Student Work Samples, Scoring Rubrics, and Commentary



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Grade 1

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Grade 1 Performance Standards

Numbers and Operations

- Task 1 M1N1** Students will estimate, model, compare, order, and represent whole numbers up to 100.
- Task 2 M1N2** Understand place value notation for the numbers between 1 and 100. (Discussions may allude to 3-digit numbers to assist in understanding place value.)
- Task 3 M1N3** Students will add and subtract numbers less than 100 as well as understand and use the inverse relationship between addition and subtraction.
- Task 4 M1N4** Students will count collections of up to 100 objects by dividing them into equal parts and represent the results using words, pictures, or diagrams.

Measurement

- Task 5 M1M1** Students will compare and/or order the length, weight, or capacity of two or more objects by using direct comparison or a nonstandard unit.
- Task 6 M1M2** Students will develop an understanding of the measurement of time.

Geometry

- Task 7 M1G1** Students will study and create various two and three-dimensional figures and identify basic figures (squares, circles, triangles, and rectangles) within them.
- Task 8 M1G2** Students will compare, contrast, and/or classify geometric shapes by the common attributes of position, shape, size, number of sides, and number of corners.
- Task 9 M1G3** Students will arrange and describe objects in space by proximity, position, and direction (near, far, below, above, up, down, behind, in front of, next to, and left or right of).

Data Analysis and Probability

- Task 10 M1D1** Students will create simple tables and graphs, and interpret them.

Performance Tasks

- Performance tasks are activities that give students the opportunity to demonstrate their understanding and mastery of the skills and concepts described in their standards and learning objectives.
- Students can show orally, in writing, or through manipulatives that they clearly understand the purpose of the mathematical task at hand, the instructions given, the questions asked, and the mathematical vocabulary included.
- Students are required to use an organized approach to mathematical problems that can be solved using one or more strategies. They are also expected to explain the steps and strategies used to complete the task and to show evidence of checking that their answers are both correct and reasonable.
- Performance tasks also require a critical analysis by the student to explain the methods chosen to solve problems and the reasons why the methods were chosen.

Georgia Performance Task Guide

► Understand the Tasks

- For every Georgia Performance Standard, you will find a performance task that is carefully worked through in a step-by-step model to provide best instructional practices for the teacher and to improve student ability to problem solve efficiently and accurately.
- Each performance task addresses a Georgia Performance Standard and reviews the types of instructional activity the performance task expects.

► Understand the Essential Questions

- Each performance task provides three questions specifically designed to help students develop and practice operational skills, to think critically about their work, and to apply what they have learned to other mathematical tasks.
- Each performance task helps students apply mathematical concepts and skills in the context of authentic problems and understand these concepts rather than simply following a sequence of procedures.

► Understand the Math Vocabulary

- Vocabulary knowledge provides students with a mathematical foundation they can “apply and build on” in and out of the classroom.
- It is not only essential for students to learn how to “do” math, but also to articulate what they are learning to promote conceptual understanding and develop the necessary problem-solving skills.
- Each performance task highlights the important math vocabulary, defines the words, and suggests strategies to improve student comprehension (See Math Vocabulary Strategies p. vii).
- With an effective mathematical dialogue going on in the classroom, teachers can more accurately determine student progress as students acquire the means of explaining how they solve problems and describe what concepts may not be clear to them.

Math Vocabulary Strategies

- **Visual Aids and Models.** Consider using visual aids and/or physical models to demonstrate new concepts and help students grasp unfamiliar math terms. For example, graphic organizers can help children grasp an understanding of mathematical terms and their relation to one another. Writing math terms on cards and placing them on the walls with their meanings provide constant classroom exposure.
- **Analyze the Word** Multi-syllabic strategies can help students distill word roots that provide contextual clues to their meaning. Knowing the meanings of common roots can unlock the meaning of untold numbers of new words, and builds interest in language.
- **Math Words in Various Contexts** Reinforce the meaning of math vocabulary in other nonmathematical activities. For example, incorporate the teaching of math words in a language arts activity such as a read aloud or writing a story. Or, use mathematical terms on written feedback when returning assignments to students. Sports, entertainment, and games can be good discussion themes for math words as well.
- **Informal Language** Sometimes it is appropriate to use mathematical terms in your own dialogue as you demonstrate the various thought processes and steps to follow in solving a problem. For example, “numerator” is often referred to as the “top number”. However, always return to the formal math term to continuously expand students’ math vocabulary.
- **Check for Clarity** Be sure to check for understanding of the task, processes and vocabulary involved before, during, and after an assignment. For example, have students explain the meaning of mathematical terms to the class or in small discussion groups.
- **Common Math Terms** Teach the meanings of common math terms that have other definitions outside of the context of math—for example root, face, mean, and prime. Deciding which meaning of a multiple-meaning word is being used is an important reading skill. Students often must use contextual clues to figure out the intended meaning.
- **Note Cards** Encourage students to keep note cards to record math terms and vocabulary in their own words. Terms can go on one side of the card and a description, illustration, and/or example can go on the other side. Students can reference these note cards at any time and add to them as their understanding grows. They can also be taken home for extra practice.
- **Math Journals** Use journals to practice and strengthen new language skills and math terms in a non-threatening manner. Students can write word lists, definitions, examples, and illustrations in way that makes sense to them.
- **Think Aloud** As you are demonstrating a new skill or showing how to solve a problem, “think aloud” by narrating the process students must go through to solve the problem. Make sure to emphasize the math terms relevant to the situation.

Collectibles: *Compare and Order Numbers*



Number and Operations M1N1

Students will estimate, model, compare, order, and represent whole numbers up to 100.

► Understand the Essential Question

How do we use numbers?

Discuss with children how the numbers they see around them have different usages. Write 28 on the chalkboard. Ask children to say a sentence using the number. For example, "There are 28 children in the class." Tell children some numbers are used to tell "how many." When numbers are used to tell how many, you can compare their sizes and put them in sequential order. Call on a volunteer to tell his or her address. The child may say, "I live at 28 Parkside Drive." Tell children in this situation, 28 is used to identify a location. It is not used to tell how many. Have children look around the classroom for examples of numbers that are used to tell how many and examples that are not.

► Understand the Performance Task Objectives

- represent numbers using a variety of models, diagrams, and number sentences
- order numbers up to 100 by making ordered sequences and representing them on a number line
- estimate quantities of whole numbers up to 100
- compare quantities of coins by making fair trades
- explain and justify answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

compare To examine numbers to decide if one number is greater than or less than another or if the numbers are equal.

estimate To make a thoughtful guess or to tell about how much or about how many.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

VISUAL AIDS AND MODELS

- Draw an oversized number line on the floor. The number line should go from 1 to 100.
- Have each child write a number between 1 and 100 on a sheet of paper.
- Take turns calling out each child to stand on the number line to show his or her number.

Name _____

Collectibles

Materials: number line (optional)

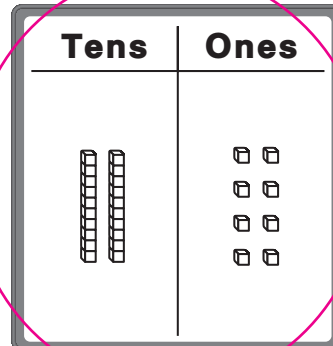
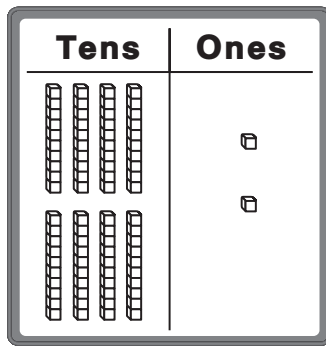
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

$$28 = \underline{2} \text{ tens } \underline{8} \text{ ones} \quad 28 = \underline{20} + \underline{8}$$

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



28, 47, 83; Amanda

4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.

100 stamps

5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.

Check children's work. Possible answers: 5 dimes; or 2 dimes 1 nickel

and 1 quarter; each equal 50 cents, the same total as 2 quarters.

Performance Task 1 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly represents numbers using a variety of models, diagrams, and number sentences.
- correctly orders numbers up to 100 by making ordered sequences and representing them on a number line.
- correctly estimates the sum of two whole numbers.
- correctly compares quantities of coins by making fair trades.
- clearly explains and justifies answer.

Student Work Sample

The response shows the correct choice for the pictorial representation of the number 28. It shows how to write 28 in two ways. It correctly orders the three numbers from least to greatest on a number line. It provides an accurate estimation for question 4. For question 5, it lists many different coin combinations equal to 50 cents. It clearly explains and justifies the answer.

Collectibles

Materials: number line (optional)

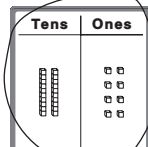
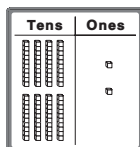
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

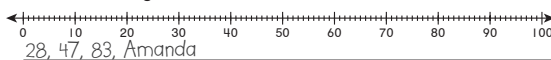
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = 2 tens 8 ones 28 = 20 + 8

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.

100 stamps

5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.

5 dimes; 2 dimes 1 nickel and 1 quarter; 10 nickles; 50 pennies.
Two quarters are equal to 50 cents. I can use pennies, dimes, nickels, and quarters to make the equal amount in many ways.

SATISFACTORY RESPONSE

The response:

- correctly represents numbers using a variety of models, diagrams, and number sentences.
- correctly orders numbers up to 100 by making ordered sequences and representing them on a number line.
- correctly estimates the sum of two whole numbers.
- may correctly compare quantities of coins by making fair trades.
- may explain and justify answer.

Student Work Sample

The response shows the correct choice for the pictorial representation of the number 28. It shows how to write 28 in two ways. It correctly orders the three numbers from least to greatest on a number line. It provides an accurate estimation for question 4. For question 5, it lists some different coin combinations equal to 50 cents. The explanation of the work is limited.

Collectibles

Materials: number line (optional)

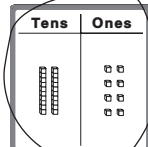
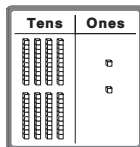
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

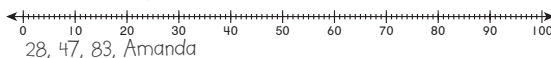
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = 2 tens 8 ones 28 = 20 + 8

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.

100 stamps

5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.

5 dimes; 2 dimes 1 nickel and 1 quarter. I know my answers are correct

PARTIAL RESPONSE

The response:

- correctly represents numbers using a variety of models, diagrams, and number sentences.
- incorrectly orders numbers up to 100 by making ordered sequences and representing them on a number line.
- may not correctly estimate the sum of two whole numbers.
- may correctly compare quantities of coins by making fair trades.
- does not explain and justify answer.

Student Work Sample

The response shows the correct choice for the pictorial representation of the number 28. It shows how to write 28 in two ways. It incorrectly orders the three numbers from least to greatest. It does not provide an accurate estimation for question 4. For question 5, it lists some different coin combinations equal to 50 cents. There is no explanation of the work.

Collectibles

Materials: number line (optional)

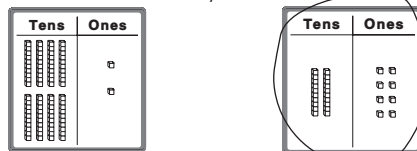
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

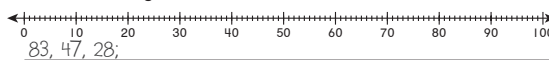
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = 2 tens 8 ones 28 = 20 + 8

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.
80
5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.
5 dimes

MINIMAL RESPONSE

The response:

- correctly represents numbers using a variety of models, diagrams, and number sentences.
- incorrectly orders numbers up to 100 by making ordered sequences and representing them on a number line.
- incorrectly estimates the sum of two whole numbers.
- does not compare quantities of coins by making fair trades.
- does not explain and justify answer.

Student Work Sample

The response shows the correct choice of the pictorial representation of the number 28. It shows how to write 28 in two ways. It incorrectly orders the three numbers from least to greatest. It does not provide a reasonable estimation for question 4. The answer for question 5 is incorrect and there is no explanation.

Collectibles

Materials: number line (optional)

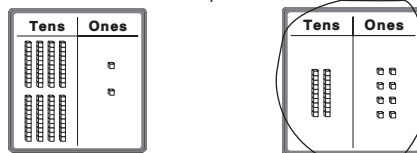
Read this aloud and then complete the task.

Jonathan is a rock hound. He has 28 different rocks.

Amanda is a coin fan. She has 83 coins.

Robert loves stamps. He has 47 stamps.

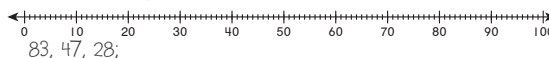
1. Which shows 28? Circle your answer.



2. Write 28 in two ways.

28 = 2 tens 8 ones 28 = 20 + 8

3. Draw a dot for each number on the number line. Order the numbers from the least to the greatest. Who has the most items in their collection?



4. If Robert collects another 47 stamps, estimate how many stamps he will have in his whole collection.
50
5. Amanda has two quarters. She will trade the quarters for coins that equal the same amount. List some coin combinations that can be traded for Amanda's coins. Explain how you know your answer is correct.
5 nickles

Guess My Number: *Place Value*



Number and Operations M1N2

Understand place value notation for the numbers between 1 and 100. (Discussions may allude to 3-digit numbers to assist in understanding place value.)

- Determine which multiple of ten a given number is nearest (rounding) using tools such as a sequential number line or a hundreds chart to assist in estimating.
- Represent collections of less than 30 objects with 2-digit numbers and understand the meaning of place value.

► Understand the Essential Question

Why do we need place value?

Discuss with the children that knowing place value is very important. Write the numbers 23 and 32 on the board. Ask, "How many tens are in the number 23? How many tens are in the number 32?" Then ask, "Are these numbers the same?" Go on a Scavenger Hunt. Have groups of children work together to look around the class and collect objects to represent the numbers you wrote on the board. For example, they may collect 23 paper clips, 32 pages of paper, and so on. Ask children to make groups or piles of 10s of the objects they collected.

► Understand the Performance Task Objectives

- determine to which multiple of ten a given number is nearest
- represent collections of less than 30 objects with 2-digit numbers and understand the meaning of place value
- explain and justify answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

place value The value assigned to the place that a digit occupies in a number.

ones The name given to the position farthest to the right when describing whole number place value.

tens The name given to the second position from the right when describing whole number place value.

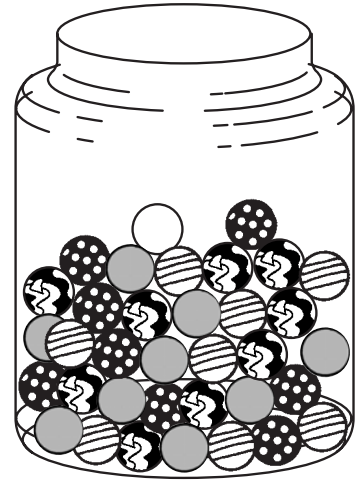
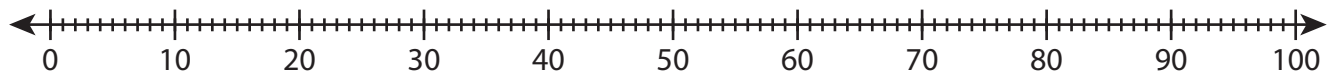
Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

CHECK FOR CLARITY

Be sure to check for understanding of the task, processes, and vocabulary involved before, during, and after the assignment. For example, have children explain the meaning of place value, ones, and tens to the class or in small discussion groups. Encourage children to use objects or pictures to explain what they know about these math terms.

Name _____

Guess My Number

Materials: number line (optional)**Ms. Pollack has a jar of marbles.****She tells the class a riddle to have them guess how many marbles are in the jar.****“My number is the smallest number you can round to the nearest ten and get 40.”****Write the numbers. You may use the number line to help you.**

1. Which numbers can be rounded to 40?

35, 36, 37, 38, 39, 41, 42, 43, 44

Which is the smallest number you wrote? **35**

There are **35** marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place is the same. What number am I? **33**

I know all the numbers that can be rounded to 30. Only 33 has the same number in the ones place and tens place.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

Check children's work. Possible responses: 22. There are 2 tens and 2 ones in my number. Children could provide a drawing representing their number with groups of tens and ones.

Performance Task 2 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly determines to which multiple of ten a given number is nearest.
- correctly represents collections of less than 30 objects with 2-digit numbers and understands the meaning of place value.
- clearly explains and justifies answers.

Student Work Sample

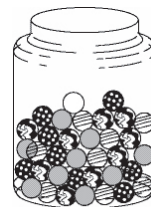
The response shows all the numbers that can be rounded to 40. Correctly identifies the smallest number that can be rounded to 40. The answer to question 2 is correct and the explanation is clear. The response to the last question is clear and accurate.

Guess My Number

Materials: number line (optional)

Ms. Pollack has a jar of marbles. She tells the class a riddle to have them guess how many marbles are in the jar.

"My number is the smallest number you can round to the nearest ten and get 40."



Write the numbers. You may use the number line to help you.



1. Which numbers can be rounded to 40?

35, 36, 37, 38, 39, 41, 42, 43, 44

Which is the smallest number you wrote? 35

There are 35 marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place are the same. What number am I? 33

I know all the numbers that can be rounded to 30. Only 33 has the same number in the ones place and tens place.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

22. There are 2 tens and 2 ones in my number.



SATISFACTORY RESPONSE

The response:

- correctly determines to which multiple of ten a given number is nearest.
- correctly represents collections of less than 30 objects with 2-digit numbers and understands the meaning of place value.
- may explain and justify answers.

Student Work Sample

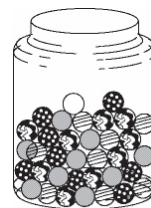
The response shows all the numbers that can be rounded to 40. Correctly identifies the smallest number that can be rounded to 40. The answer to question 2 is correct and the explanation is clear. The response to the last question is correct.

Guess My Number

Materials: number line (optional)

Ms. Pollack has a jar of marbles. She tells the class a riddle to have them guess how many marbles are in the jar.

"My number is the smallest number you can round to the nearest ten and get 40."



Write the numbers. You may use the number line to help you.



1. Which numbers can be rounded to 40?

35, 36, 37, 38, 39, 41, 42, 43, 44

Which is the smallest number you wrote? 35

There are 24 marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place is the same. What number am I? 24

I know all the numbers that can be rounded to 30. 33 has the same number in the ones place and tens place.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

22



PARTIAL RESPONSE

The response:

- correctly determines to which multiple of ten a given number is nearest.
- correctly represents collections of less than 30 objects with 2-digit numbers.
- may explain and justify answers.

Student Work Sample

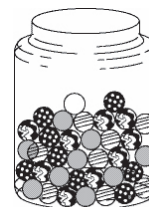
The response shows all the numbers that can be rounded to 40. Correctly identifies the smallest number that can be rounded to 40. The answer to question 2 is correct, but the explanation is limited. The response to the last question is limited.

Guess My Number

Materials: number line (optional)

Ms. Pollack has a jar of marbles. She tells the class a riddle to have them guess how many marbles are in the jar.

"My number is the smallest number you can round to the nearest ten and get 40."



Write the numbers. You may use the number line to help you.



1. Which numbers can be rounded to 40?

35, 36, 37, 38, 39, 41, 42, 43, 44

Which is the smallest number you wrote? 35

There are 35 marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place is the same. What number am I? 33

You round 33 to 30.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

22 has 2 tens and 2 ones.

MINIMAL RESPONSE

The response:

- may determine to which multiple of ten a given number is nearest.
- incorrectly represents collections of less than 30 objects with 2-digit numbers.
- does not explain and justify answers.

Student Work Sample

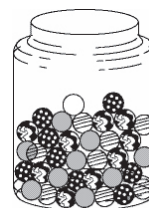
The response shows some of the numbers that can be rounded to 40, but some are incorrect. Correctly identifies the smallest number that can be rounded to 40. The answer to question 2 is correct but the explanation is limited. The response to the last question is incorrect.

Guess My Number

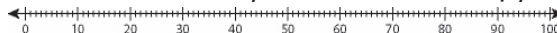
Materials: number line (optional)

Ms. Pollack has a jar of marbles. She tells the class a riddle to have them guess how many marbles are in the jar.

"My number is the smallest number you can round to the nearest ten and get 40."



Write the numbers. You may use the number line to help you.



1. Which numbers can be rounded to 40?

31, 32, 33, 34, 35, 36, 37, 38, 39

Which is the smallest number you wrote? 35

There are 35 marbles in the jar.

2. Solve the riddle. Explain how you solved it.

When I am rounded to the nearest ten, I am 30. The number in my ones place and tens place is the same. What number am I? 33

You round 33 to 30.

3. Write a number between 1 and 30. Use words and pictures to tell about your number.

25

Club Choices: *Addition and Subtraction*



Numbers and Operations M1N3

Students will add and subtract numbers less than 100 as well as understand and use the inverse relationship between addition and subtraction.

► Understand the Essential Question

Why do we need to add and subtract?

Discuss with children that understanding addition and subtraction is very useful in daily life. They need to understand the situations in which addition or subtraction may apply. Write " $8 + 7 = ?$ " on the chalkboard. Ask children to come up with a real-life story problem that could be solved using the number sentence. Discuss children's problems. Then write " $12 - 4 = ?$ " on the chalkboard and repeat the process. In this task, children are asked to identify situations in which addition or subtraction may apply. Provide children with different problem types. Give subtraction situation examples of taking away from a set, comparing two sets, or finding an unknown amount that is taken away from or added to a set. Give addition examples of adding to a set or comparing two sets.

► Understand the Performance Task Objectives

- understand and use addition and subtraction strategies such as counting on from the smaller number and regrouping to make a new ten
- understand and use the inverse relationship between addition and subtraction
- write a subtraction problem
- justify and explain answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

add To find the sum of two or more numbers.

sum The answer in addition.

subtract To take a quantity away from another quantity.

difference The answer in subtraction.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

MATH JOURNALS

- Use journals to practice and strengthen new math skills and math terms.
- Children may write the addition and subtraction terms with their own illustrations.

Name _____


Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use  to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

12 children; Check children's work. Possible answer: I make a ten to add. $7 + 5$ is the same as $10 + 2$.

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline 12 \end{array}$$

6 children; I can use addition to check my answer.

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Sample response: Jake has 17 blue marbles and 9 red marbles. How many more blue marbles than red marbles does Jake have? $17 - 9 = 8$, so Jake has 8 more blue marbles.

Performance Task 3 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly adds and subtracts numbers using strategies such as counting on from the smaller number and regrouping to make a new ten.
- correctly identifies situations in which subtraction may apply.
- correctly uses the inverse relationship between addition and subtraction to check answers.
- correctly writes a subtraction problem.
- correctly justifies and explains answers.

Student Work Sample

The response shows correct addition of two numbers by making a new ten. It shows how to subtract and check the answer. The answer and explanation to question 3 are clear and accurate.

Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use $\square\square\square$ to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$
 12 children; I make a ten to add. 7 + 5 is the same as 10 + 2.

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$
 6 children; I can use addition to check my answer.

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Jake has 17 blue marbles and 9 red marbles. How many more blue marbles than red marbles does Jake have?
 $17 - 9 = 8$, so Jake has 8 more blue marbles

SATISFACTORY RESPONSE

The response:

- correctly adds and subtracts numbers using strategies such as counting on from the smaller number and regrouping to make a new ten.
- correctly identifies situations in which subtraction may apply.
- correctly uses the inverse relationship between addition and subtraction to check answers.
- may write a subtraction problem.
- may justify and explain answers.

Student Work Sample

The response shows correct addition of two numbers by making a new ten. It shows how to subtract and check the answer. The answer and explanation to question 3 are limited.

Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use $\square\square\square$ to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$
 12 Children;
 12 I make a ten to add. 7 + 5 is the same as 10 + 2.

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$
 6 Children ; I can use addition to check my answer.

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Jake has 17 blue marbles and 9 red marbles. How many more blue marbles does Jake have? 8.

PARTIAL RESPONSE

The response:

- correctly adds and subtracts numbers using strategies such as counting on from the smaller number and regrouping to make a new ten.
- may identify situations in which subtraction may apply.
- may use the inverse relationship between addition and subtraction to check answers.
- may write a subtraction problem.
- may justify and explain answers.

Student Work Sample

The response shows correct addition of two numbers by making a ten. It shows how to subtract and check the answer. The answer and explanation to question 3 are incomplete.


Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use  to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$
 I make a ten to add. $7 + 5$ is the same as $10 + 2$.

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$
 6 Children; I can use addition to check my answer.

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Jake has 17 blue marbles and 9 red marbles. Who has more marbles?

MINIMAL RESPONSE

The response:

- correctly adds numbers using strategies such as counting on from the smaller number and regrouping to make a new ten.
- incorrectly identifies situations in which subtraction may apply.
- does not use the inverse relationship between addition and subtraction to check answers.
- does not write a subtraction problem.
- does not justify and explain answers.

Student Work Sample

The response shows correct addition of two numbers, but does not provide a solution method. It does not show how to subtract or check the answer. The answer and explanation to question 3 are incorrect.


Club Choices

Materials: counters (optional)

Use the table to answer the questions below.

The children in Ms. Cobb's class all go to after school clubs.

Club	Day	Number of Children
Book Cooks	Monday	2
Computer	Tuesday	8
Math Games	Wednesday	7
Sports	Wednesday	5
Paper Potpourri	Thursday	6

1. How many children go to club activities on Wednesday? Use pictures or words to explain how you solve. You may use  to help you.

$$\begin{array}{r} 7 \\ + 5 \\ \hline 12 \end{array}$$

2. How many more children go to club activities on Wednesday than on Thursday? How can you check your answer?

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$

3. Write a subtraction story problem. Use pictures, numbers, or words to show how you solved your problem.

Jake has 17 blue marbles and 9 red marbles. How many marbles do they have in all?

Fair Shares: Equal Parts and Fractions**Numbers and Operations M1N4**

Students will count collections of up to 100 objects by dividing them into equal parts and represent the results using words, pictures, or diagrams.

- Use informal strategies to share objects equally between two to five people.
- Identify, label, and relate fractions (halves, fourths) as equal parts of a whole using pictures and models.

► Understand the Essential Question

When do we use fractions in real life?

Discuss with children that a fraction is a way of showing equal parts. Display food packages that show examples of fractions. Ask questions like, "What does $\frac{1}{4}$ of a cup mean?" In this task, children have hands-on experience of using fractions. You may remind children if they pour four $\frac{1}{4}$ cups of water together, they will make one full cup.

► Understand the Performance Task Objectives

- show counting by 5s on a number line
- use informal strategies to divide objects into equal groups
- relate fractions as equal parts of a whole using pictures and models
- explain and justify an answer

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

equal parts Parts that are the same size.

fraction A way to represent part of a whole by showing the total number of equal parts in the whole and the number of those parts being described.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

VISUAL AIDS AND MODELS

- Give each pair of children a paper plate and 20 beans.
- Have one child use the paper plate to show equal parts of halves and fourths.
- Have another child use the beans to show 2 groups of equal parts and 4 groups of equal parts.
- Ask each pair of children if they are showing examples of fair shares and have them tell why.

Name _____

Fair Shares

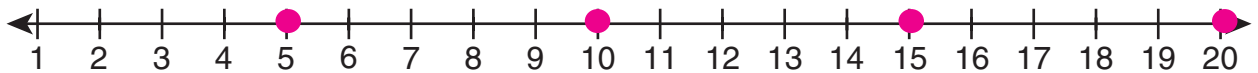
Materials: 20 counters (optional)

Brian has 20 marbles and 4 friends. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

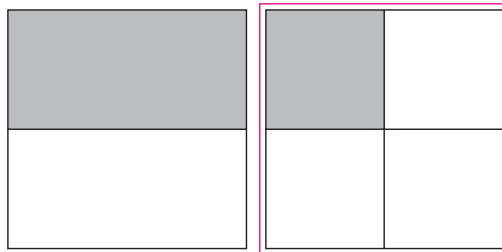
5, 10, 15, 20



2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

5 marbles; possible responses: a drawing showing 4 groups of 5 marbles

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



Possible response: There are 4 friends sharing the marbles equally. Each friend gets $\frac{1}{4}$ or one fourth of the marbles.

Performance Task 4 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly shows counting by 5s on a number line.
- correctly uses words or a drawing to tell how to share objects equally among 4 people.
- correctly relates fractions as equal parts of a whole using pictures and models.
- clearly justifies an answer.

Student Work Sample

The response correctly shows counting by 5s on a number line. The drawing demonstrates the use of an informal strategy to share objects equally among 4 people. The answer shows correct use of a fraction and a model to relate equal parts of a whole. Explanation of answer choices is clear.

Fair Shares

Materials: 20 counters (optional)

Brian has 20 marbles. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

5, 10, 15, 20

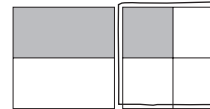


2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

•••• •••• •••• ••••

5 marbles

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



There are 4 friends equally sharing 20 marbles. Each friend gets $\frac{1}{4}$ or one fourth of the marbles.

SATISFACTORY RESPONSE

The response:

- correctly shows counting by 5s on a number line.
- may tell how to share objects equally among 4 people with limited explanation.
- correctly relates fractions as equal parts of a whole using pictures and models.
- may show limited explanation for answer choices.

Student Work Sample

The response correctly shows counting by 5s on a number line. It tells how to share objects equally among 4 people with limited explanation. The response shows correct use of a fraction and a model to relate equal parts of a whole. The explanation for answer choice is limited.

Fair Shares

Materials: 20 counters (optional)

Brian has 20 marbles. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

5, 10, 15, 20



2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

5; There are 4 people. Each person gets 5 marbles.

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



There are 4 friends who share equally the marbles.

PARTIAL RESPONSE

The response:

- correctly shows counting by 5s.
- may tell how to share objects equally among 4 people with limited explanation.
- incorrectly relates fractions as equal parts of a whole using pictures and models.
- may show incorrect explanation for answer choice.

Student Work Sample

In the response the samples are not fully accurate and most explanations are not clear.

Fair Shares

Materials: 20 counters (optional)

Brian has 20 marbles. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

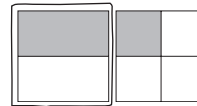
5, 10, 15, 20



2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

each person gets 5 marbles

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



Each person gets a equal share. Each person gets one half.

MINIMAL RESPONSE

The response:

- correctly shows counting by 5s.
- gives an incorrect answer for how to share objects equally among 4 people.
- incorrectly relates fractions as equal parts of a whole using pictures and models.
- gives no explanation for answer choice.

Student Work Sample

In the response the samples are mostly incorrect and no explanations are given.

Fair Shares

Materials: 20 counters (optional)

Brian has 20 marbles. How could he share them equally among his friends?



1. Count by 5s to 20. Show your work on a number line.

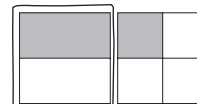
5, 10, 15, 20



2. Brian wants to share 20 marbles equally among 4 friends. How many marbles does each friend get? Use a picture to support your answer.

4 marbles

3. Which picture would you use to show what each friend gets? Circle your answer. Explain how you chose your answer.



How Big? *Measure Length, Weight, and Capacity*



Measurement M1M1

Children will compare and/or order the length, weight, or capacity of two or more objects by using direct comparison or a nonstandard unit.

► Understand the Essential Question

Why is it important to compare the capacity and length of objects?

Ask the children to look around the room for items, such as various books, desktops, and games and compare their lengths, weights, and capacities. Ask children to “Write down an object that is in your bedroom and describe how long it is and how much it weighs to a friend.” Tell them we use these descriptions in our everyday lives. For example, pouring juice into the right cup so that it does not spill over or putting school supplies in a box that needs to fit all of the various lengths of items. In this task, children will compare items according to length and weight and find objects with the same properties.

► Understand the Performance Task Objectives

- compare the length and weight of objects
- use data from a picture to identify properties
- understand the relationship between the size and capacity of items
- explain answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies on page vii.

weight The measure of how heavy something is.

length The measure of how long something is.

equal Having the same size, quantity, value, or standard.

Try to use these words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way. Incorporate as much hands-on practice with new vocabulary words as you can.

VISUAL AIDS AND MODELS

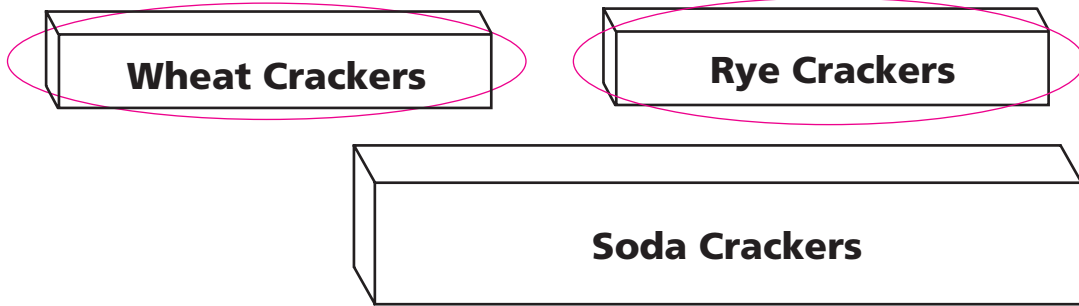
- Have children compare the length, weight, and capacity of various items in their homes, and decide if any have equal properties.

Name _____

How Big?

Materials: Boxes of crackers

You have these items.



1. Which box is the longest?

soda crackers

2. Which boxes have equal lengths?

rye and wheat crackers

3. Circle the boxes that weigh the least when filled.

4. Which box holds the most when filled?

soda crackers

5. Which box weighs the most when filled? How do you know?

soda crackers; possible response: it holds the most.

Performance Task 5 Scoring Rubric

EXTENDED RESPONSE

The response:

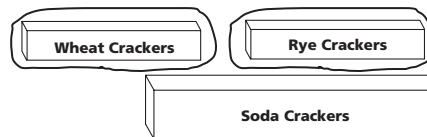
- correctly identifies the soda crackers box as the longest.
- correctly identifies the rye and wheat crackers boxes as having equal lengths.
- correctly identifies the rye and wheat crackers boxes as weighing the least.
- identifies the soda crackers box as having the greatest capacity.
- identifies the soda crackers box as weighing the most and provides a clear explanation.

Student Work Sample

The response is complete and accurate. All comparative measurements and properties are identified. The children can explain the box's capacity or weight by using words such as "biggest," "longest," "heaviest," or "filled with the most."

How Big?

Materials: soup can, can of corn, can of paint
You have these items.



1. Which box is the longest?
soda crackers
2. Which boxes have **equal lengths**?
rye and wheat crackers
3. Circle the boxes that **weigh** the least when filled.
4. Which box holds the most when filled?
soda crackers
5. Which box weighs the most when filled? How do you know?
soda crackers; it holds the most.

SATISFACTORY RESPONSE

The response:

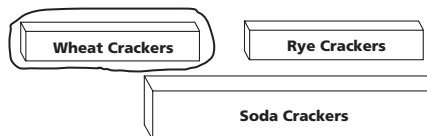
- correctly identifies the soda crackers box as the longest.
- may only identify the the box of rye crackers correctly.
- identifies the box of rye crackers or wheat crackers.
- correctly identifies the soda crackers box as weighing the most and provides a clear explanation.

Student Work Sample

The response is almost complete, but has an error. In question 2, the box of wheat crackers is not identified.

How Big?

Materials: soup can, can of corn, can of paint
You have these items.



1. Which box is the longest?
soda crackers
2. Which boxes have **equal lengths**?
rye crackers
3. Circle the boxes that **weigh** the least when filled.
4. Which box holds the most when filled?
soda crackers
5. Which box weighs the most when filled? How do you know?
soda crackers; it holds the most.

PARTIAL RESPONSE

The response:

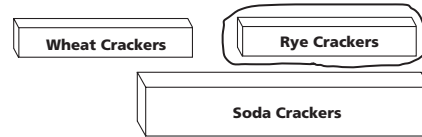
- correctly identifies the soda crackers box as the longest.
- may only identify the box of rye crackers correctly.
- may only identify the box of rye or wheat crackers.
- identifies the box of soda crackers, but the explanation is incorrect or omitted.

Student Work Sample

In the sample, the responses are not fully accurate and contain two errors. The responses to question 2 and 3 are incorrect. In question 5, no explanation given.

How Big?

Materials: soup can, can of corn, can of paint
You have these items.



1. Which box is the longest?
soda crackers
2. Which boxes have **equal lengths**?
rye crackers
3. Circle the boxes that **weigh** the least when filled.
4. Which box holds the most when filled?
soda crackers
5. Which box weighs the most when filled? How do you know?
soda crackers

MINIMAL RESPONSE

The response:

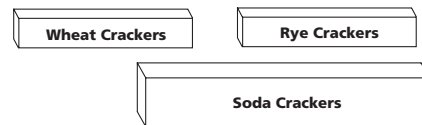
- may correctly identify the box of soda crackers as the longest.
- may only identify the box of rye crackers correctly.
- may not identify either the rye or wheat crackers boxes.
- correctly identifies the box of soda crackers in question 5, but the explanation is incorrect or omitted.

Student Work Sample

In the sample, the responses are not fully accurate. There are 4 incorrect responses. There is no explanation for question 5.

How Big?

Materials: soup can, can of corn, can of paint
You have these items.



1. Which box is the longest?
soda crackers
2. Which boxes have **equal lengths**?
rye crackers
3. Circle the boxes that **weigh** the least when filled.
4. Which box holds the most when filled?
rye crackers
5. Which box weighs the most when filled? How do you know?
soda crackers

Time Measurement: *Duration, Longer/Shorter, Before/After***Measurement M1M2**

Children will develop an understanding of the measurement of time.

- c. Compare and/or order the sequence or duration of events (e.g., shorter/longer and before/after).

► Understand the Essential Question

Why is it important to understand the measurement of time?

Write activities on the board (brushing teeth, riding on the school bus, eating lunch, reading a book, sitting in a classroom, playing a baseball game) and have the children label them in order of length of time needed for each. In addition, ask questions about these activities that reinforce terms such as before/after, longer/shorter, and lengths of time. Ask the children, "Do you feel that play time is really short?" Explain that it can be longer if other tasks, like completing homework or doing chores, can be done more quickly. This task requires viewing a schedule that will enable students to understand the duration of school events. It will also help manage personal time so that more enjoyable activities can be longer.

► Understand the Performance Task Objectives

- use data from a picture to identify sequence of events
- compare activities to identify duration of events (i.e., longer/shorter)
- understand how to identify duration of activities (in hours)
- explain answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

longer A word used in comparing length to show that one item has a greater length than another.

shorter A word used to compare length or height to show that one item has a lesser length or height than another.

before A word used to describe a point in time or an event that happens earlier than another in a sequence.

after A word used to describe an event that happens later in time.

Try to use these words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way. Incorporate as much hands-on practice with new vocabulary words as you can.

VISUAL AIDS AND MODELS

- Have children make a schedule of events that happen when they get home from school.

Name _____

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?

math

2. Name one activity that is **shorter** than reading.

sing-a-long or snack

3. Name one activity that is **longer** than snack.

math, reading, or school picnic

4. Name one activity that is **before** math.

snack or reading

5. Which activity is **after** sing-a-long?

school picnic

6. Name your favorite activity at home and tell how long it is.

reading; 30 minutes

Performance Task 6 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly identifies math.
- shows a correct choice of sing-a-long or snack.
- shows a correct choice of math, reading, or school picnic.
- identifies snack or reading.
- correctly identifies school picnic.
- identifies an activity with a logical length of time (answers will vary).

Student Work Sample

The response is complete and accurate. The sequence and duration of events are all correctly identified.

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?
math
2. Name one activity that is **shorter** than reading.
sing-a-long
3. Name one activity that is **longer** than snack time.
math
4. Name one activity is **before** math.
snack
5. Which one activity is **after** Sing-a-long?
school picnic
6. Name your favorite activity at home and tell how long it is.
reading; 30 minutes

SATISFACTORY RESPONSE

The response:

- correctly identifies math.
- shows a correct choice of sing-a-long or snack.
- shows a correct choice of math, reading, or school picnic.
- identifies snack or reading.
- may correctly identify school picnic.
- may not give a logical length of time for choice of activity.

Student Work Sample

The response is complete, but contains an error. The events were all correctly identified in sequence, however the duration of time in question 6 is not logical.

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?
math
2. Name one activity that is **shorter** than reading.
sing-a-long
3. Name one activity that is **longer** than snack time.
reading
4. Name one activity is **before** math.
snack
5. Which one activity is **after** Sing-a-long?
school picnic
6. Name your favorite activity at home and tell how long it is.
reading; 7 hours

PARTIAL RESPONSE

The response:

- correctly identifies math.
- may show a correct choice of sing-a-long or snack.
- may show a correct choice of math, reading, or school picnic.
- may not identify snack.
- may correctly identify school picnic.
- may have incorrectly identified a logical length of time for the activity.

Student Work Sample

The response is complete, but contains two errors. In question 4, the child misunderstood the meaning of before. In question 6, the child could not identify the correct duration of the activity.

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?
math
2. Name one activity that is **shorter** than reading.
snack
3. Name one activity that is **longer** than snack time.
reading
4. Name one activity is **before** math.
sing-a-long
5. Which one activity is **after** Sing-a-long?
school picnic
6. Name your favorite activity at home and tell how long it is.
reading; 1 minute

MINIMAL RESPONSE

The response:

- correctly identifies math.
- may not show a correct choice of sing-a-long or snack.
- may not show a correct choice of math, reading, or school picnic.
- may not identify snack.
- may correctly identify school picnic.
- may have incorrectly identified a logical length of time for the activity.

Student Work Sample

The response contains inaccuracies. In questions 2 and 3, the child confused the meaning of shorter and longer. In question 4, the child confused the meaning of before. In question 6, the child could not identify the correct duration of the activity.

Time Measurement

This is Anna's school day schedule.

Time	Activity
9:00 – 10:00	reading
10:00 – 10:30	snack
10:30 – 11:30	math
11:30 – 12:00	sing-a-long
12:00 – 2:00	school picnic

1. Which activity is third?
math
2. Name one activity that is **shorter** than reading.
school picnic
3. Name one activity that is **longer** than snack time.
snack
4. Name one activity is **before** math.
sing-a-long
5. Which one activity is **after** Sing-a-long?
school picnic
6. Name your favorite activity at home and tell how long it is.
reading; 5 minutes

What Do You See? *Study and Create Shapes*



Geometry M1G1

Students will study and create various two- and three-dimensional figures and identify basic figures (squares, circles, triangles, and rectangles) within them.

► Understand the Essential Question

Why do we need to know about and describe different shapes?

Discuss with children that there are different geometric shapes in their surroundings. Studying the attributes of various shapes helps them identify and classify the objects they see. Ask children to think of objects with different shapes in their kitchen. You may suggest cereal boxes, juice boxes (rectangular prisms), oatmeal boxes (cylinders), ice cream cones (cones). Ask them to describe what each of these items looks like to a classmate. In this task, children will observe several three-dimensional shapes and describe what each looks like. Help them to count sides as they name the objects.

► Understand the Performance Task Objectives

- identify and study the same three-dimensional shapes
- identify two-dimensional shapes within three-dimensional shapes
- create pictures and designs using shapes
- explain choices

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

cylinder A solid with two circular congruent bases.

hexagon A figure with six sides.

rectangular prism A solid figure with six faces that are rectangles.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

VISUAL AIDS AND MODELS

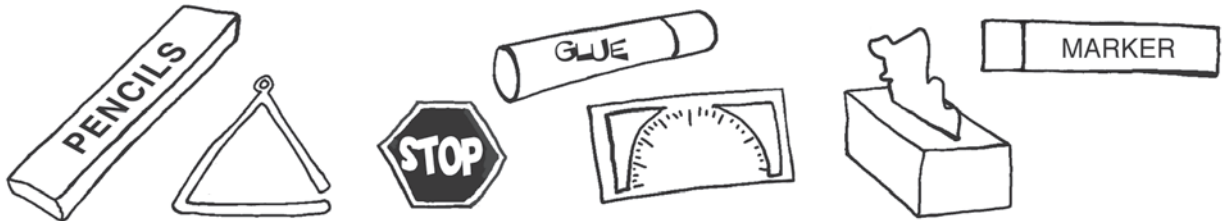
- Set up a display of various classroom objects that have the shape of a cylinder, a rectangular prism, and other basic geometric shapes. Label each with the correct name.
- Have children observe different objects. Comparing and contrasting them (orally and/or written) will help reinforce the vocabulary terms.
- Have children draw and build new shapes. Make sure they use appropriate geometric terms to describe their new shapes.

Name _____

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain. **Possible response:**


The glue stick and the marker are both cylinders. A cylinder has faces of circles and rectangles. The pencil box and the tissue box are both rectangular prisms. A rectangular prism has faces of rectangles and squares.

2. Trace a ○ on your paper. Which objects could you use? Why?

Check children's drawings. Possible answers: a glue stick, a marker, a cup; a soda can; I can draw around a face of a cylinder to make a circle.

3. Trace a □ on your paper. Which objects could you use? Why?

Check children's drawings. Possible answers: a pencil box, a tissue box, a juice box; a book; I can draw around a face of a rectangular prism to make a rectangle.

4. Create a picture or a design that has the same shape as the . What shapes can you use to make it?

Check children's work. Possible answers: I use 6 triangles to make a hexagon; I use two triangles and one rectangle to make a hexagon.

Performance Task 7 Scoring Rubric

EXTENDED RESPONSE

The response:

- applies knowledge of 2-dimensional shapes and uses it to explain why two 3-dimensional shapes are the same.
- correctly identifies and creates basic 2-dimensional shapes from 3-dimensional shapes and gives clear explanations.
- shows a way of making a hexagon using other 2-dimensional shapes.
- provides clear and accurate reasons for all answers.

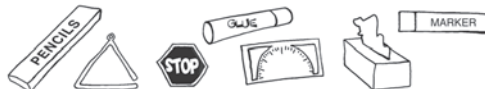
Student Work Sample


In the response the samples are accurate and all explanations are clear. The shapes are correctly classified and drawn.

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain. The glue stick and the marker; they are both cylinders. A cylinder has faces of circles and rectangles. The pencil box and the tissue box; they are both rectangular prisms. A rectangular prism has faces of rectangles and squares.
2. Trace a ○ on your paper. Which objects could you use? Why? A glue stick or a marker; I can draw around a face of a cylinder to make a circle.
3. Trace a □ on your paper. Which objects could you use? Why? A pencil box or a tissue box; I can draw around a face of a rectangular prism to make a rectangle.
4. Create a picture or a design that has the same shape as the ⬡. What shapes can you use to make it? I use 6 triangles to make a hexagon. 

SATISFACTORY RESPONSE

The response:

- correctly identifies the same 3-dimensional shapes and gives limited explanations.
- correctly creates basic 2-dimensional shapes from 3-dimensional shapes and gives limited explanations.
- may show a drawing of a hexagon with limited descriptions.
- provides reasons for most answers.

Student Work Sample


In the response the samples are mostly accurate and most explanations are clear. Most shapes are correctly classified and drawn.

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain. The glue stick and the marker; they are both cylinders. The pencil box and the tissue box; they are both rectangular prisms
2. Trace a ○ on your paper. Which objects could you use? Why? A glue stick; a glue stick is a round shape.
3. Trace a □ on your paper. Which objects could you use? Why? A pencil box; a pencil box is a rectangular shape.
4. Create a picture or a design that has the same shape as the ⬡. What shapes can you use to make it? I use triangles to make this shape 

PARTIAL RESPONSE

The response:

- may correctly identify the same 3-dimensional shapes and give no explanations.
- may make correct 2-dimensional shapes from 3-dimensional shapes and give no explanations.
- may show an incorrect drawing of a hexagon with limited explanations.
- may show a limited response to answers.

Student Work Sample

In the response the samples are not fully accurate and most explanations are not clear.

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain.
the glue stick and the marker; the pencil box and the tissue box
2. Trace a ○ on your paper. Which objects could you use? Why?
a glue stick or a marker
3. Trace a □ on your paper. Which objects could you use? Why?
a pencil box or a tissue box
4. Create a picture or a design that has the same shape as the ⬡. What shapes can you use to make it?
I use triangles to make this shape

MINIMAL RESPONSE

The response:

- incorrectly identifies the same 3-dimensional shapes and give no explanations.
- makes incorrect 2-dimensional shapes from 3-dimensional shapes.
- may show an incorrect drawing of a hexagon with no explanations.
- may show a limited response to answers.

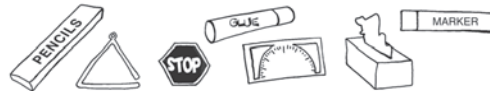
Student Work Sample

In the response the samples are not fully accurate and most explanations are not clear. Most shapes are incorrectly classified and drawn.

What Do You See?

Materials: geometric patterns (optional)

Read this aloud and then complete the task.



1. Which of these objects have the same shapes? Why? You may use pictures or words to explain.
The glue stick and the pencil box.
2. Trace a ○ on your paper. Which objects could you use? Why?
circles
3. Trace a □ on your paper. Which objects could you use? Why?
rectangles
4. Create a picture or a design that has the same shape as the ⬡. What shapes can you use to make it?
trace it

Shapes in Nature: *Classify Geometric Shapes*



Geometry M1G2

Students will compare, contrast, and/or classify geometric shapes by the common attributes of position, shape, size, number of sides, and number of corners.

► Understand the Essential Question

How are certain shapes alike and different?

Discuss with children that each geometric shape has its own attributes. Tell the class a riddle about a geometric shape. "I have 4 sides and 4 corners. All my sides have the same length. What am I?" After children solve the riddle, call out a volunteer to draw the shape on the board. Have children work in pairs to make up their own riddles. Then children exchange riddles and solve. In this task, children have the opportunity to talk about the attributes of various geometric shapes. You may have them make a chart to compare the attributes of each shape.

► Understand the Performance Task

- identify a hexagon
- compare, contrast, and classify geometric shapes
- combine geometric shapes to make new shapes
- explain and justify answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

pentagon A polygon with five sides.

hexagon A polygon with six sides.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

MATH JOURNALS

- Use journals to practice and strengthen new math skills and math terms.
- Have children write the name of each geometric shape with their own illustrations.
Tell children that by doing so, they are creating their own picture dictionary.

Name _____

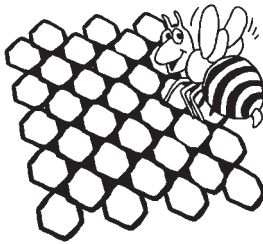
Shapes in Nature

Materials: geometric patterns (optional)

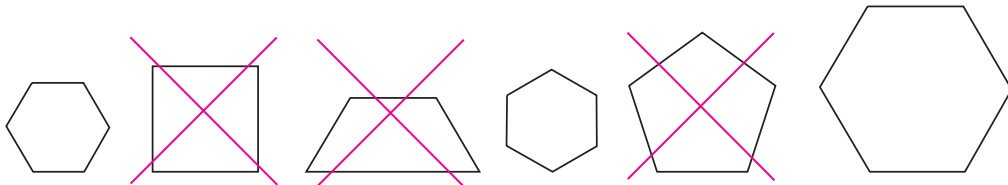
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	5	6

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.

Check children's work.

Performance Task 8 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly identifies hexagons.
- correctly compares, contrasts, and classifies geometric shapes.
- correctly draws a flower using shapes and labels each shape.

Student Work Sample

In the response the samples are accurate and all explanations are clear. The shapes are correctly identified and drawn.

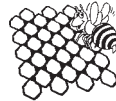
Shapes in Nature

Materials: geometric patterns (optional)

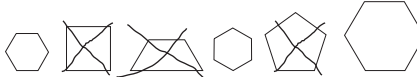
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



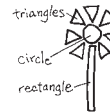
1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	5	6

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.



SATISFACTORY RESPONSE

The response:

- correctly identifies hexagons.
- correctly compares, contrasts, and classifies geometric shapes.
- correctly draws a flower using shapes and labels at least one shape.

Student Work Sample

In the response the samples are accurate and all explanations are clear. The shapes are correctly identified and drawn. (There are some labels missing for question 3.)

Shapes in Nature

Materials: geometric patterns (optional)

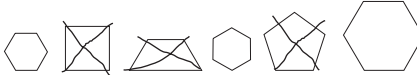
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



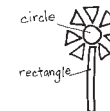
1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	5	6

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.



PARTIAL RESPONSE

The response:

- correctly identifies hexagons.
- correctly compares, contrasts, and classifies geometric shapes.
- may draw a flower using shapes, but labels may be incorrect or missing.
- may explain and justify answers.

Student Work Sample

In the response the samples are accurate and all explanations are clear. The shapes are correctly drawn but not all labels are correct.

Shapes in Nature

Materials: geometric patterns (optional)

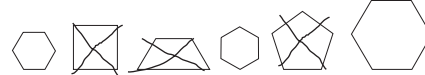
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



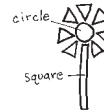
1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	5	6

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.



MINIMAL RESPONSE

The response:

- incorrectly identifies hexagons.
- may compare, contrast, and classify geometric shapes.
- attempts to draw a flower using shapes.
- may explain and justify answers.

Student Work Sample

In the response the samples for questions 1 and 2 are partially correct. The drawing of the flower is incorrect, and labels are missing.

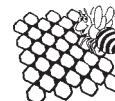
Shapes in Nature

Materials: geometric patterns (optional)

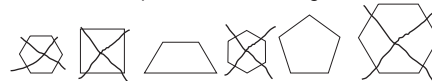
Read this aloud and then complete the task.

Answer each question. Use 

Tara's class is on a nature walk. They see some bees building a honeycomb. Honeycomb is an example of a hexagon that is repeated many times.



1. Mark an X on the shapes that are **not** hexagons.



2. Complete the chart.

Shape	triangle	rectangle	pentagon	hexagon
How many sides?	3	4	5	6
How many corners?	3	4	2	3

3. Draw a flower made of shapes. Use circles, triangles, and rectangles. Label the shapes you use.



Treasure Hunt: *Position and Direction*



Geometry M1G3

Students will arrange and describe objects in space by proximity, position, and direction (near, far, below, above, up, down, behind, in front of, next to, and left or right of).

► Understand the Essential Question

When do we use position and direction words?

Have children think of instances in their daily lives when position words are used. They may say, "When I was looking for my book, my mom said it was next to my bed." Or, "When my friend dropped her pencil and she said it was behind me." Tell children that using position words to describe spatial relations is an essential skill in daily life. Play a game of "I Spy" with the class. Write these position words on the board: near, far, below, above, up, down, behind, in front of, next to, left of, right of. Ask, "I Spy a dictionary. Where is it?" Encourage children to use at least one position word from the list to explain where the dictionary is. The child who answers the question correctly gets to pick the next object. In this task, children will use position words to hunt for treasures.

► Understand the Performance Task Objectives

- identify objects in space by position and direction
- arrange objects in space by position and direction
- use position words to tell location
- explain answers

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

position Describes the location of an object.

direction The way that someone or something is moving or pointing.

map A detailed drawing of an area.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

GAMES AND ACTIVITIES

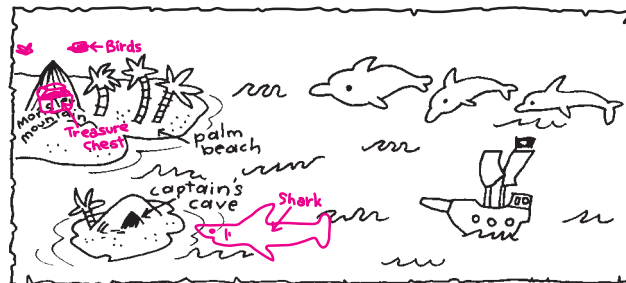
- When teaching spatial terms to children, it is helpful to reinforce the application of these words through games and activities.
- You may arrange a treasure-hunt activity. Place several "pictures" of treasures around the classroom. Have children find the treasure. Tell them in order to claim the treasure, they have to use spatial terms to describe the location of the treasure.

Name _____

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.

right
left
2. Palm Beach is to the _____ of the dolphins.

right
left

Follow the directions to draw the following on the treasure map.

Check children's work.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

Check children's work.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

Performance Task 9 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly identifies objects in space by position and direction.
- correctly arranges objects in space by position and direction.
- uses direction and position words accurately.

Student Work Sample

The response shows how to identify objects in space by position and direction. The birds and the shark are drawn in the accurate spots. The directions for the treasure chest are clear and accurate.

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.
right left
2. Palm Beach is to the _____ of the dolphins.
right left

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

The treasure chest is far from the pirate's ship. It is near Palm Beach. If you go up the mountain you will find it behind a rock.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

SATISFACTORY RESPONSE

The response:

- correctly identifies objects in space by position and direction.
- correctly arranges objects in space by position and direction.
- may use direction and position words.

Student Work Sample

The response shows how to identify objects in space by position and direction. The birds and the shark are drawn in the accurate spots. The directions for the treasure chest are limited.

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.
right left
2. Palm Beach is to the _____ of the dolphins.
right left

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

The treasure chest is near Palm beach.
It is below a tree.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

PARTIAL RESPONSE

The response:

- correctly identifies objects in space by position and direction.
- correctly arranges objects in space by position and direction.
- uses limited direction and position words.

Student Work Sample

The response shows how to identify objects in space by position and direction. The birds and the shark are drawn in the accurate spots. The directions for the treasure chest are limited.

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.
right left
2. Palm Beach is to the _____ of the dolphins.
right left

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

The treasure chest is below a tree.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

MINIMAL RESPONSE

The response:

- incorrectly identifies objects in space by position and direction.
- correctly arranges objects in space by position and direction.
- uses incorrect direction and position words.

Student Work Sample

The response incorrectly identifies objects in space by position and direction. The birds and the shark are drawn in the accurate spots. The directions for the treasure chest are incorrect.

Treasure Hunt

Read the map. Circle your answers.

Jake likes pirate stories. He draws a pirate's treasure map.



1. The pirate's ship is to the _____ of Captain's Cave.
right left
2. Palm Beach is to the _____ of the dolphins.
right left

Follow the directions to draw the following on the treasure map.

3. There are some birds flying above Monster Mountain. Draw the birds.
4. There is a shark swimming next to Captain's Cave. Draw the shark.
5. Draw a treasure chest on the map. Use at least 3 words from this list to describe the location of the treasure chest.

The treasure chest is to the right of
the pirate's ship.

near
far
below
above
up
down
behind
in front of
next to
left of
right of

Ralph's Ice Pops: Data and Graphs**Data Analysis and Probability M1D1**

Students will create simple tables and graphs, and interpret them.

- a. Interpret tally marks, picture graphs, and bar graphs.

► Understand the Essential Question

Why do we use graphs to show data?

Display various graphs from newspapers or magazines. The graphs may include a pie chart, a bar graph, a pictograph, and so on. Ask, "Why do we use graphs to show data?" Lead children to the conclusion that a graph is an efficient way of showing data. Instead of reading through a lot of words, people read a graph and get the information quickly. Have pairs of children look through their cubby and supply boxes to see what kind of pens they have and how many of each kind there are. Give each pair an inch grid paper. Tell them to make a graph to show the kind of pens they have. In this task, children collect and organize data to create a bar graph.

► Understand the Performance Task Objectives

- interpret tally marks
- record data on a bar graph
- interpret a bar graph
- explain how to organize and record data on a graph

► Understand the Math Vocabulary

Review the following vocabulary words with children. You may want to review these terms using the vocabulary strategies explained on page vii.

tally mark A symbol that represents an individual item of data.

bar graph A graph that shows information using rectangular bars, either horizontally or vertically.

data Pieces of information.

Remember to use the new vocabulary words in context. Merely memorizing the new words does not allow children to grasp and utilize the terminology in a meaningful way.

VARIOUS CONTEXTS

- Reinforce these mathematical terms by having children find examples of graphs in the real-world. For example, you may have pairs of children look through some social studies or science textbooks and see who finds more graphs.
- Sports, entertainment, and the consumer's world can be good discussion themes for these math terms as well.

Name _____

Ralph's Ice Pops

Ralph's Ice Pops is coming to Jackson School today.

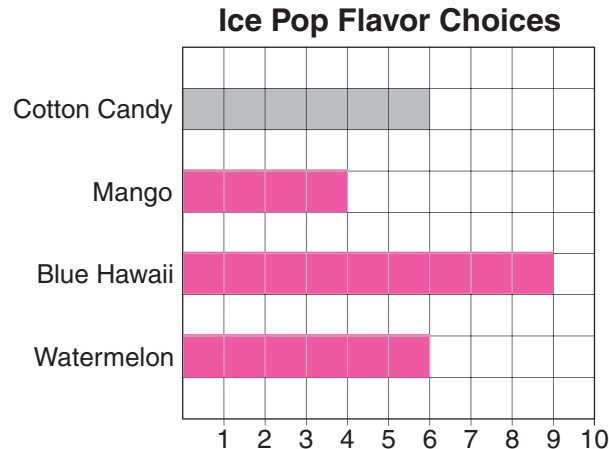
Room 2 makes the following choices:

1. Which flavor has the most number of choices? the least?

most: Blue Hawaii; least: Mango

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon
 		 	

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Possible answer: Blue Hawaii is the most popular choice. Mango is

the least popular choice. Cotton Candy and Watermelon got the same

number of choices.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

It is easier to compare the information in a bar graph because the length of

the lines show which has more.

Performance Task 10 Scoring Rubric

EXTENDED RESPONSE

The response:

- correctly interprets tally marks.
- correctly records data in a bar graph.
- correctly interprets a bar graph.
- clearly explains why data is easier to compare in certain formats.

Student Work Sample

The response correctly shows how to interpret tally graphs. The bar graph is correctly completed. The sentences about the bar graph tell important information about the graph. The explanation of why certain graphs make it easier to compare information is clear and accurate.

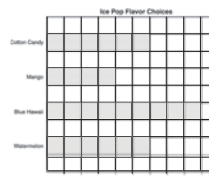
Ralph's Ice Pops

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Room 2 makes the following choices:

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Blue Hawaii is the most popular choice. Mango is the least popular choice. Cotton Candy and Watermelon got the same number of choices.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

It is easier to compare the information in a bar graph because the length of the lines show which has more.

SATISFACTORY RESPONSE

The response:

- correctly interprets tally marks.
- correctly records data in a bar graph.
- correctly interprets a bar graph.
- shows a limited explanation why data is easier to compare in certain formats.

Student Work Sample

The response correctly shows how to interpret tally marks. The bar graph is correctly completed. The sentences about the bar graph tell important information about the graph. The explanation of why certain graphs make it easier to compare information is limited.

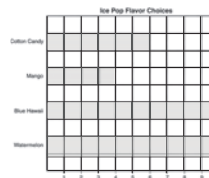
Ralph's Ice Pops

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Room 2 makes the following choices:

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Blue Hawaii is the most popular choice. Mango is the least popular choice. Cotton Candy and Watermelon got the same number of choices.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

The bar graph is easier to read.

PARTIAL RESPONSE

The response:

- correctly interprets tally marks.
- correctly records data in a bar graph.
- tells limited information about the bar graph.
- gives a limited explanation of why data is easier to compare in certain formats.

Student Work Sample

The response correctly shows how to interpret tally marks. The bar graph is correctly completed. The sentences about the bar graph tell some facts about the graph. The explanation of why certain graphs make it easier to compare information is limited.

Ralph's Ice Pops

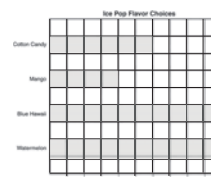
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most: Blue Hawaii; least: Mango

Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Ralph's Ice Pops came to Jackson School. Room 2 is having ices today. Blue Hawaii is the most popular choice.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

A bar graph

MINIMAL RESPONSE

The response:

- correctly interprets tally marks.
- shows an incomplete bar graph.
- tells incorrect information about the bar graph.
- gives no explanation for question 4.

Student Work Sample

The response correctly shows how to interpret tally marks. The bar graph is incomplete. The information about the bar graph is incorrect. Explanation for the last question is not given.

Ralph's Ice Pops

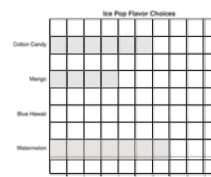
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Ice Pop Flavor Choices			
Cotton Candy	Mango	Blue Hawaii	Watermelon

2. Complete this bar graph.



3. Write three sentences to tell what this bar graph shows.

Blue Hawaii is very delicious. Cotton Candy is very delicious, too. Mango is not delicious.

4. Was it easier to make comparisons from the tally marks or the bar graph? Why?

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